ELECTRICAL SOUTH

JUNE, 1950

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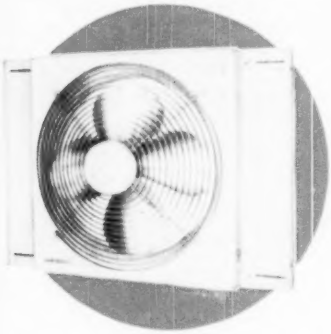
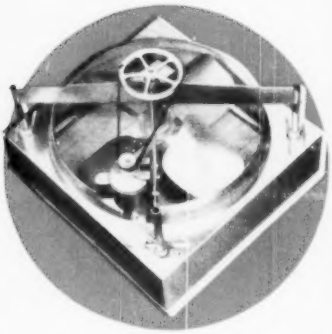
NEW HUNTER PACKAGE ATTIC FAN
With Automatic Ceiling Shutter
4750 or 6800 CFM

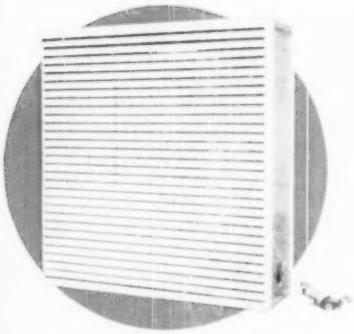


NEW HUNTER 2-SPEED REVERSIBLE
18" WINDOW FAN
2500 CFM

4 Profit Makers



HUNTER PACKAGE ATTIC FANS
With Built-In Pull Chain Shutter
7700 and 9500 CFM



HUNTER DELUXE WINDOW FAN
Most Beautiful of All Fans
1700 CFM

Write, wire or phone for catalog, prices, and name of Hunter distributor near you

HUNTER FAN AND VENTILATING COMPANY

Exclusive Fan Makers Since 1886 • 392 South Front St., Memphis, Tenn.

Designed for Contractors
by Wakefield
The Pre-Installed Strap
. . . vital first step in
easy one-man installation
Run a chalk line along the ceiling, measure off your intervals, attach all the straps in the line with toggle or anchor bolts—then carry up your units one at a time and slip the flared ends of the stems into the bayonet slot of the straps. As simple as that. One man can do it. Saves time, saves labor, gives your customer an economical job. And each successive step is just as easy—all the way through to final installation . . . as we'll show you in further ads.
Wide-awake contractors don't say, "Hang the expense!" They say, "Hang Wakefield!"
The F. W. Wakefield Brass Company · Vermilion, Ohio
Wakefield
Over-ALL Lighting
GRENADIER
STAR
COMMODORE
WAKEFIELD CEILING

"The effect of the temperature on the operation of thermally-controlled circuit-breakers should be taken into consideration in the application of such circuit-breakers when they are subjected to extremely low or extremely high temperatures."

(From the 1947 National Electric Code book, page 52)

Circuit Breaker "Derating"* Advised by the Code

But— UNreliable UNsatisfactory and UNnecessary

Murray FULLY MAGNETIC Circuit Breakers

Have NO Thermal Element...Are NOT Affected by Heat...NEVER Need "Derating"

IN COMPACT PANEL BOXES

... heat builds up, often trips thermal circuit breakers far below rated load. But Murray Fully Magnetic Breakers have no thermal element, are not affected by heat.

IN BOILER ROOMS

... utility rooms ... or near steam lines, thermal circuit breakers trip right and left. But Murray Fully Magnetic Breakers keep circuits in service because they are not affected by heat.

IN DIRECT SUNLIGHT

... as in yard pole equipment, circuit breaker temperatures can vary 100° overnight! Here Murray Fully Magnetic Breakers are a must — hot or cold, they trip reliably at the same overload current values.

Inverse time delay is achieved in Murray Fully Magnetic Circuit Breakers by a single, hermetically sealed, factory calibrated hydraulic piston. No "derating" is ever needed!

*In hot or sunny locations, if you want to serve a 15 amp. load you can use:

1. A 15 amp. Murray Fully Magnetic breaker on No. 14 wires, or
2. A 20 amp. thermal breaker on No. 12 wires (N.E. Code, page 52)

WHY WIRE WASTEFULLY?

Murray Fully Magnetic Breakers are available in 2, 4, or 8 breaker load centers. Each breaker can be individually replaced with breaker of same, lower or higher rating.

Single pole breakers in 10, 15, 20, 25, 30, 35 and 50 amp. ratings. Only two handle positions — Off and On.

Get the full facts on Murray Fully Magnetic Circuit Breakers. Operating characteristics and construction features are given in this informative folder. Write for your copy now.

FOR TOMORROW'S LOADS...
Equip Today!

FULLY MAGNETIC

Murray

MANUFACTURING CORPORATION

50 Years of Service to the Electrical Industry

1250 ATLANTIC AVENUE • BROOKLYN 16, NEW YORK

SERVICE ENTRANCE & METER EQUIPMENT • MAGNETIC CIRCUIT BREAKERS
SWITCHES • CURRENT LIMITING REACTORS • CROWS'NEST AERIAL LADDERS

WINS ACCLAIM *Hands Down!*

OUR BEST WISHES
to
Those in Attendance
at the
N.A.E.D. Convention
Atlantic City June 11-16

Everything FLUORESCENT

STANLEY fixtures are designed to function more efficiently, to give long, satisfactory service, and to enhance the appearance of any installation. This superiority is assured by STANLEY'S staff of lighting engineers and modern plant, as well as our policy of using only the finest materials available. Each unit is planned not only for economical maintenance, but each part is easily accessible for instant repairs or inspection.

FLUORESCENT • SLIMLINE • RECESSED

The **800** *Stanley* SLIMLINE

Both in the 96" and 48"
with these OUTSTANDING FEATURES

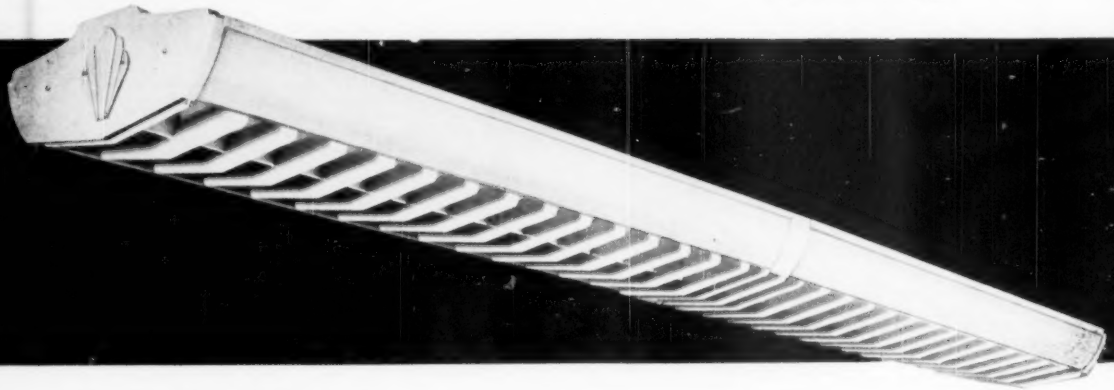
★ **INSTANT STARTING**
. . . *Just "FLICK" the Switch*

★ **PLASTIC SIDES**
. . . *for Safety and Lighter Weight*

★ **TOP REFLECTOR**
. . . *increases downward reflection*

★ **HINGED LOUVRES**
. . . *for QUICK Servicing*

★ **VERSATILITY**
. . . *for individual, continuous, flush, or pendant mounting*



WRITE FOR CATALOG

Stanley Electric
MANUFACTURING COMPANY

1234 CARPENTER STREET • PHILA. 47, PENNA.

STEPHENS & HUMPHRIES, S.W., ATLANTA, GA.

No. 2311 Autogap Fuse-Cutout. Brackets available for pole or arm mounting.

complete protection

. . . with No. 2311 Autogap fuse-cutout

This combination of the No. 2302-9KV Hubbard Autogap Arrester with a 7½ KV flip-out type fuse holder offers these advantages: 1) Ready accessibility to all parts. 2) Ease in co-ordinating fuses with oil circuit breakers and sectionalizing equipment. 3) Maximum lightning protection. 4) Unit installation of lightning arrester and fuse cutout. 5) Time proven Autogap construction.

HUBBARD AND COMPANY

ESTABLISHED 1843

PITTSBURGH • CHICAGO • OAKLAND, CALIFORNIA

"Hang the load on Hubbard Hardware!"

ELECTRICAL SOUTH is published monthly by W. R. C. Smith Publishing Co., Marietta, Ga., and Atlanta, Ga., U. S. A. Subscription rates: United States and Possessions, $1.00 for one year. Canada and Foreign Countries, $1.50 per year. Entered as second class matter at the Post Office, Marietta, Ga., under Act of March 3, 1879.

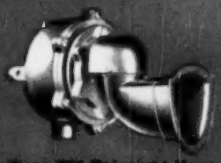
Volume 30 Number 6

Protect the plant and
with CROUSE-HINDS

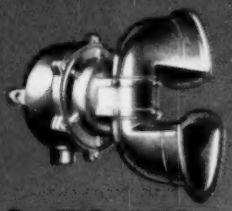
. . . . . bells, horns, sirens, and visual signals

Raintight signals for non-hazardous locations

Type WH Raintight Horn with Grill



Type WH Raintight Horn with Single Projector



Type WH Raintight Horn with Double Projector

Type FS Raintight Pilot Light Condulet

The most complete line

Continuous production is of vital importance in successful plant operation. Costly shutdowns can often be avoided by Crouse-Hinds signals that give an instant warning of abnormal operating conditions or sound an alarm in case of fire.

A wide variety of signals is necessary to meet the varied conditions in industry. Crouse-Hinds offers a comprehensive line of signaling devices for plant protection and communication . . . . . sirens, horn, bells, and visual signals. Each unit is designed with individual characteristics that make it superior for a particular kind of service. There are Crouse-Hinds signals for use in non-hazardous locations; raintight signals for use where exposed to the weather; explosion-proof and dust-tight signals for use in hazardous locations; signals with a low volume of sound and high power signals that are extremely loud.

You have a definite advantage in selecting signals from the all-inclusive Crouse-Hinds line. It is possible for you to meet the requirements of every location. In noisy areas the character of the noise is of first importance. A signal producing a sound having the greatest contrast to the area noise should always be selected. For example, a horn would not be suitable in

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas Denver — Detroit — Houston — Indianapolis — Kansas City — Los Angeles Milwaukee — Minneapolis — New York — Philadelphia — Pittsburgh — Portland, Ore. San Francisco — Seattle — St. Louis — Washington. Resident Representatives: Albany Atlanta — Baltimore — Charlotte — New Orleans — Richmond, Va. — Salt Lake City
CROUSE-HINDS COMPANY OF CANADA, LTD., TORONTO, ONT.

CONDULET
First in the field
STANDARD OF QUALITY

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

maintain continuous production

Signaling Devices

for control of operations, and fire protection.

of explosion-proof and dust-tight signals for hazardous locations

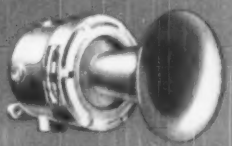
surroundings where a constant hum or whine is present but a bell could readily be heard. A bell would be inadequate in surroundings where the noise is produced by hammering on metal but a horn would give the required contrast.

Careful consideration should also be given to the number of signals required. In general, much better coverage is obtained by even distribution of several low output units than by one or two high output units. On the other hand, a high powered unit is necessary when the sound must be projected a considerable distance from one location.

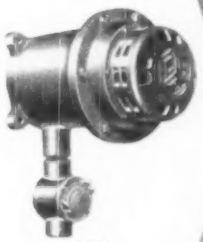
Crouse-Hinds' line of visual signals includes a variety of pilot lights and also the Visularm, a compact unit used to supervise manufacturing processes. The Visularm will automatically indicate normal and abnormal temperature, liquid level, speed, load, or any other condition which can be electrically coupled to the circuit. An independent circuit is provided in the Visularm to actuate an audible signal.

In Crouse-Hinds' complete line there are dozens of different units from which to choose the items to meet your particular requirements. They are all listed in the Crouse-Hinds Condulet Catalog.

Type ETH Explosion-Proof Resonating Horn

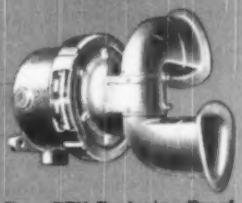


Type ETH Explosion-Proof Standard Volume Horn



Type ETH Explosion-Proof Siren

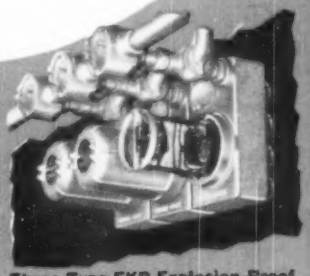
Type ETH Explosion-Proof High Power Horn with Grill



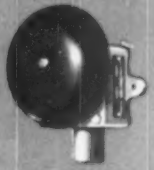
Type ETH Explosion-Proof High Power Horn with Double Projector

Type EGP Explosion-Proof Panel-Mounting Switch and Pilot Light Condulet

Type EFD Explosion-Proof Pilot Light Condulet



Three Type EKP Explosion-Proof Visularms. One cover removed. Rear view of panel.



Type ESR Explosion-Proof Bell

ALL TYPES and SIZES. Yoke-and-Nut Type, No. 10 to 1,000,000. Also Service Entrance, Service Post and Special Connectors (widest variety — more are shown below)

Penn-Union Service Connectors have accurate machine-cut threads, and carefully chamfered edges—do not catch in lineman's gloves.

Durable—re-usable over and over. Fully approved by Underwriters' Laboratories and the highest authorities in the utility field, for the most exacting service.

Penn-Union also makes the complete line of Tee Connectors, Cable Taps, Straight, Parallel, Elbow and Cross Connectors, Bus Supports, Clamps, Spacers, Ground Clamps, Terminal Lugs, etc., etc.

Leading users found that "Penn-Union" on a fitting is their best guarantee of Dependability.

Sold by Leading Wholesalers

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L. MORRIS LANDERS
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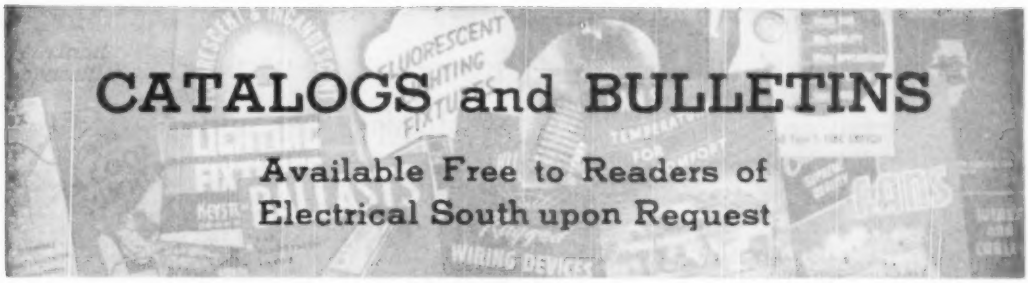
Atlanta, Ga.

WALTER J. HUEMMER
Dallas Transfer & Term. Wareh. Bldg.
Dallas, Texas

PENN-UNION ELECTRIC CORP.
ERIE, PA.

THE *COMPLETE* LINE OF CONDUCTOR FITTINGS

PENN-UNION



CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 9, 73, and 75)

1008—Electrical Equipment. The latest edition of the Federal catalog has just been issued by Federal Electric Products Co., 60 Paris St., Newark 7, N. J. This profusely illustrated catalog contains complete details of Federal's newest motor controls, safety switches, service equipment, circuit breakers, panelboards, switchboards and busduct.

1020—Electrical Maintenance. Available immediately is a new 48-page reference and instruction booklet issued by the Anaconda Wire and Cable Co., 25 Broadway, New York 4, N. Y. Entitled "Wire Ahead," this book covers a variety of problems encountered in electrical system maintenance.

1024—Cords and Cables. The Simplex Wire & Cable Co. has just issued an attractive 68-page catalog giving descriptions of the Simplex Lines portable cords and cables. Complete information on splicing is also included, as well as a pictorial section on applications. It may be obtained from 79 Sidney St., Cambridge 39, Mass.

1028—Porcelain Insulators. A loose-leaf catalog of porcelain insulators and pole line hardware is available from Illinois Electric Porcelain Co., Macomb, Illinois. In addition to the pages of product specifications, the catalog contains a special section of useful tables.

1030—Condensed Lighting Catalog. This 8-page descriptive bulletin issued by Pittsburgh Reflector Co., 450 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of fluorescent and incandescent lighting equipment. Each item is fully illustrated and catalogued, and many are accompanied by installation drawings.

1032—Receptacles, Plugs, and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin No. EL 446, describing the new EverLok receptacles, plugs and cord connections for 30 amperes, 440 volts, ac. Typical uses are for heavy duty industrial purposes.

1034—Building Wire. A fully illustrated 48-page booklet called "Hazard Building Wires" is now available from the Hazard Insulated Wire Works Division of The Okonite Co. The manual contains complete engineering information on the many types of wire and cable required by the building industry. Tables showing dimensions and weights of all cables, constructions are included.

1040—Lighting Fixtures. A colorful, well illustrated 32-page catalog has been made available, featuring industrial, commercial and residential lighting with technical description and engineering data. The catalog, No. 43, may be obtained from Lee Kessler Mfg. Co., 2228 W. Tioga St., Philadelphia 34, Pa.

1042—Wire and Cable. An illustrated booklet containing 32 sections of thermoplastic building wires, rubber insulated and leaded building wires and cables, Elastomer cords, rubber cords, Neoprene cords, and many other items has been published by the General Electric Co., Bridgeport 7, Conn.

1044—Cords and Cables. New illustrated catalog sheets and descriptive pamphlets showing advantages of Bionic or Neoprene cords and cables have been made available by Western Insulated Wire Co., 1005 East 62nd St., Los Angeles 1, Calif.

1046—Fluorescent Fixtures. The latest types of fixtures and their wide applications are described and illustrated in a colorful catalog released by Southern Lighting Mfg. Co., Orlando, Fla. Lighting for stores, offices, industry, and schoolroom is discussed thoroughly with technical information and a price list included.

1048—Plug In Strip. A complete revision of Catalog CE-7 has recently been published by National Electric Products Corp., Pittsburgh, Pa. The 8-page illustrated brochure pictures the 7-ft. and 9-ft. standard lengths of the redesigned multi-outlet branch circuit assembly. Several pages are devoted to detailed instructions for cutting the Plug-In-Strip on the job.

1050—Magnetic Starters. This 8-page bulletin, No. 4110, published by the Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y., gives complete information concerning applications, size classification, construction features, enclosure dimensions and other important data pertaining to the new coils newly designed for motor starters.

ELECTRICAL SOUTH,
806 Peachtree St., NE
Atlanta 5, Ga.

June, 1950

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name _____ **Title** _____

Company _____

Address _____

City & State _____

Circle numbers below. Bulletins and catalogs will be mailed promptly.

1008	1020	1024	1028	1030
1032	1034	1040	1042	1044
1046	1048	1050	1054	1056
1058	1060	1062	1064	1066
1068	1070	1072	1074	1076
1078	1080	1082	1084	1086
1088	1090	1092	1094	1096
1098	1100	1102	1104	1106
1108	1110	1112	1114	1116
1118	1120			

NEW 56 PAGES

of helpful Facts, Figures and Photos of HAZACORD MOLD CURED FLEXIBLE CORDS and PORTABLE CABLES

TIME-SAVING ENGINEERING DATA

Engineering tables covering electrical and physical characteristics of a complete range of types and sizes of cables, including special cables . . . Formulas for determining amps., hp, kw and kva . . . Tables of Correction Factors . . . etc.

MANUAL GIVES INFORMATION ON ALL TYPES OF CABLES:

Type SO and SJO Flexible Cords
Shielded Microphone Cord
Shot Firing Cord
Hospital Silent Call Cord
Miner's Lamp Cord
Super Flexible Welding Cable
Types W and G Portable Cables
Shovel and Dredge Cables
Train Jumper Cable
Railway Utility Cable
Grounding Cable
Trolley Bus Cable
Power Jumper Cable
Molded Terminals

VALUABLE "HOW TO" SUGGESTIONS

Step-by-step description, diagrams, photographs on how to splice portable cords and cables . . . Recommendations and descriptions of splicing materials . . . Illustrated uses of flexible cords and portable cables.

HELPFUL "SELECTION" INFORMATION

The complete line of Hazard flexible cords and portable cables . . . Construction features . . . Operating data . . . Manufacturing methods . . . Results of tests and actual service.

You will want to have this new, 56-page Hazard manual as a handy reference on flexible cords and cables. It's designed throughout to help you in selecting the exact cord or cable for maximum efficiency and long life.

For your copy, write on your letterhead for Bulletin H-420 — Hazard Insulated Wire Works, Division of The Okonite Company, Wilkes-Barre, Pa.

HAZARD insulated wires and cables for every electrical use

1054—Fluorescent Fixtures. Catalog No. 48 illustrates the commercial, industrial and residential designs offered by the Kaylon Co. Featured are troffers, glass and louver type, recessed incandescent units, and many others. The catalog is available from the Kaylon Co., 2480 E. 22nd St., Cleveland 15, Ohio.

1056—Lighting Products. Forty-six pages of description, specifications, and illustrations of Spero's five lines of electrical products are included in a newly issued catalog. The five lines include fluorescent fixtures, reflectors, vapor proof units, flood lights, and materials for electrical construction. The booklet is available from the Spero-Electric Corp., 18222 Lanken Ave., Cleveland 19, Ohio.

1058—Conductor Fittings. A complete catalog illustrated and listing prices, has been issued by Penn-Union Electric Corp., Erie, Pa. Described is the company's complete line, including a wide variety of service connectors, ferrules, fuses, and tapes, also many other types of conductor fittings.

1060—Electrical Materials. Three informative bulletins, No. 1 entitled Lightning Arresters Data, No. 2 "Wire Stringing Tool Data, and No. 3, Hub Rak Data on Secondary Distribution, have been released by Hubbard and Co., Pittsburgh 1, Pa.

1062—Fuses. Listed by Underwriters' Laboratories, the Pierce renewable fuses are fully described in an illustrated folder which may be obtained from Pierce Renewable Fuses, Inc., 211-219 Hertel Ave., Buffalo 7, N. Y.

1064—Lighting Plans. Set of 48 printed plans showing diagrams and complete specifications for flood lighting, sports arenas, courts, playing fields and stadia as well as buildings, displays, etc. Particularly valuable to planning boards and contractors. Write S & M Lamp Co., 119 W. 36th Place, Los Angeles 7, Calif.

1066—Residential Fixtures. Brasscraft Products, Inc., Dept. ES, Port Chester, N. Y., announces the publication of a catalog featuring a line of residential indoor and outdoor fixtures. The catalog may be obtained by writing to the manufacturer.

1068—Wire and Cable. Rome Cable Corporation, Rome, N. Y., has just published a new "Rubber and Weatherproof Wire and Cable" catalog, No. 22. By word and picture the story of Rome wire and cable including specifications and a technical section, is brought to the reader.

1070—Fluorescent Lamp Ballasts. General Electric's Specialty Transformer and Ballast Divisions, Schenectady 5, N. Y., have announced as available a new 20-page illustrated bulletin. The bulletin gives complete information on the installation, operation and testing of ballasts for fluorescent lamps. Write General Electric for Bulletin GEI-922-B.

1072—Fluorescent Fixtures. An illustrated folder describing Rite-Lite Ceiling Fixtures is now available from the Standard Rite-Lite Co., Brighton, Pa. Nine Rite-Lite models are described.

1074—Carbon Brushes. A new 112-page illustrated catalog devoted exclusively to fractional h.p. motor brushes used on small appliances, refrigerators, portable tools, vacuum cleaners, and fans, is now available from the Southern Carbon Brush Co., Inc., P. O. Box 1710, Birmingham 1, Ala. This is a handy reference book for the electric motor repair shop.

1076—Modular Lighting. A 20-page booklet containing interesting and useful information about the "modular architectural lighting" can be obtained by writing to the Mitchell Manufacturing Co., 2525 Clybourn Ave., Chicago 14, Ill.

1078—Electrical Fittings & Devices. This is a 16-page catalog covering solderless connectors, cable and conduit fittings, and wiring devices, announced by Buchanan Electrical Products Corp., 1200 Central Ave., Hillside, N. J. It contains complete data on "Splice-Caps" and "Termend" lugs for wire splicing and terminating box connectors for metallic and non-metallic sheathed cables, both plain and insulated conduit bushings, conduit locknuts, knockout plugs, terminal blocks, attachment plugs, fuse pullers, etc. Suitable illustrations, dimensional data, and application instructions are included.

1080—Farm Lighting Equipment. Bulletin No. L-[illegible] is available from Stuber Manufacturing Co., Broadview, Ill., fully covering a new line of Stylebrite Lampholders, Yardlights, Haymowlights, and Cooplights.

1082—Lighting Equipment. Just off the press is Catalog No. 50, available from the F. W. Wakefield Brass Co., Vermilion, Ohio. The catalog covers full engineering data on fluorescent equipment, incandescent industrial and also Fluoscent for both standard and Slimline lamps.

1084—Portable Cords and Cables. Two new catalogs, 1951 Portable Cables, and 1952, Portable Cords, have just been issued by Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass., on Simplex Extra portable cords and cables for 600 volts.

1086—Connectors and Couplings. Frame Sales and Engineering Co., 4864 Woodward Ave., Detroit 1, Mich., now have available catalog sheets containing data on the complete line of their connectors, couplings, and cable connectors.

1088—Fittings and Fixtures. A 24-page illustrated catalog covering Killark fittings and fixtures as offered by Killark Electric Mfg. Co., Underwater and Easton Ave., St. Louis 13, Mo.

1090—Midget Size Busduct. Complete information on Power-Plugin, the new midget-size busduct, is found in bulletin No. 707, available from Frank Adam Electric Co., 9100 Windsor Pl., St. Louis 17, Mo.

1092—Electrical Boxes and Conduit Fittings. Steel City Electric Co., 1207 Columbus Ave., Pittsburgh 12, Pa., offers a catalog of their complete line.

1094—Photoelectric Controls for Street Lighting. A four-page catalog sheet, Bulletin 6930B, gives full information on photoelectric controls available from Luhry-Pierce Co., Inc., 38 Cayton St., Boston 21, Mass.

1096—Fastening Devices. An illustrated bulletin of electrical fastening devices for EMT, armored and non-metallic sheathed cable, featuring the No. 7410 Sheron Staple, is now available from the Sheron Mfg. Co., St. Louis 13, Mo.

1098—Fluorescent Lighting Fixtures. A complete catalog of the Compco fluorescent line is available from Compco Corp., 2201 W. 38th St., Chicago 9, Ill.

1110—Flexible Cords and Portable Cables. Bulletin H-8, a 32-page illustrated booklet describing Hazcord cords and cables, is being offered by Hazard Insulated Wire Works, Div. Okonite Co., Wilkes-Barre, Pa.

1112—Shutters and Dampers. Air Conditioning Products Co., 6240 W. Lafayette Blvd., Detroit 10, Mich., has made available an 11-page illustrated catalog, No. 44 describing their line of shutters and dampers.

1114—Q. I. Pancettes. A new 8-page bulletin on Federal Neon Q. I. Pancettes has been announced by Federal Electric Products Co., 17 Pine St., Newark 2, N. J.

1116—Lugs and Connectors. Kearney-Hogewoid, 1 E. 2nd St., Cincinnati 2, Ohio, has made available a fully descriptive catalog, No. 7LC on solderless terminal lugs and connectors.

1118—Fluorescent Fixtures. A 16-page catalog, "Fluorescent Slimline and Recessed Fixtures," describes the line recently issued by Stanley Electric Mfg. Co., 734 Carpenter St., Philadelphia 47, Pa. Fixtures designed especially for commercial, industrial, residential and school needs are illustrated, and more so, accompanied by dimensional diagrams, candlepower distribution curves, and diagrams of use of fixtures.

1120—Recessed Lighting. A four-color illustrated 24-page catalog on recessed lighting fixtures is now available from The Kalon Co., 3435 E. Jefferson Ave., Detroit 7, Mich. This covers the recent improvements in this most popular line, which through the use of a heat-insulated junction box on the fixture, no cutting and supports for installing.

HOLD LINE CONSTRUCTION COSTS TO A MINIMUM
Check
THESE ADVANCED DESIGN FEATURES:
1 Unrestricted expulsion chamber of QR arrester design eliminates "preferred current paths" which shorten conventional expulsion arrester life. Ring bus electrodes maintain correct gap calibration.
2 Trip-O-Link fuse cutout for positive fault clearance, simplicity and ease of re-fusing. Resilient spring mounting absorbs impact of heavy faults.
3 Direct-to-transformer mounting is simple and secure . . . lower installation costs. QRC with standard hanger for crossarm or direct pole mounting also available.
SPECIFY KEARNEY PRODUCTS

Install

The KEARNEY QRC

COMBINATION LIGHTNING ARRESTER and FUSE CUTOUT

Kearney **Combined Protection** for your conventional transformer is today's solution to the problem of getting the most out of your investment . . . providing more and better service with engineered economy. Initial cost is less, installation and maintenance costs are minimized . . . and your transformer is completely **protected.**

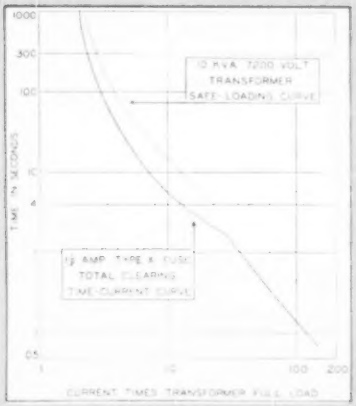
The QR arrester employed in Kearney QRC Combined Protection units provides low sparkover action for insulation security, high surge capacity for long life, and the unrestricted expulsion chamber construction assures quick, complete interruption of follow current.

The convenience and economy of the Trip-O-Link fuse cutout is your further assurance of complete protection with maximum economy.

FOR TRANSFORMER PROTECTION

The KEARNEY Type X FUSE LINK

Gives You OVERLOAD PROTECTION plus HIGH SURGE CAPACITY



Protection of service continuity is an added advantage of the QRC when you fuse with the Type X link. Compare the time-current curve of the 1½ ampere Type X fuse (X) with the safe loading curve (A) of a 10 KVA, 7200 volt transformer. The extra protection gained for long duration overcurrents is accomplished at no sacrifice of surge capacity . . . assurance against unnecessary outages due to switching surges and other non-damaging transients.

Write for complete information on the QRC, characteristics of the QR arrester and the Type X fuse link.

JAMES R. KEARNEY CORPORATION
4224-42 Clayton Avenue St. Louis 10, Missouri
Canadian Plant: Guelph, Ontario

JAMES R. KEARNEY CORPORATION ST. LOUIS, MO.

Better Construction—*SAFER* Maintenance

how GOOD can PLANNED LIGHTING be without good equipment?

THE answer is – no better than a building plan without good building material. There is no dodging the fact that Good Equipment is the BASIC factor in a GOOD LIGHTING PLAN. It is the lighting units, the lampholders, the ballasts, the reflector, etc., which MAKE or BREAK the final results, in terms of sustained lighting efficiency, low-cost maintenance and dependable operation.

That's why, no matter how good the Lighting Plan, the results may be disappointing unless the plan includes GOOD EQUIPMENT.

the PUBLIC must be BETTER INFORMED on the importance of GOOD lighting equipment

As an industry, and as individual business men, we fail in selling PLANNED LIGHTING when we do not sell the importance of GOOD EQUIPMENT at the same time. It is our obligation that we keep faith with our customers by giving them the UNVARNISHED FACTS about the DIFFERENCE between GOOD and INFERIOR or SUBSTANDARD EQUIPMENT in terms of the factors listed below.

The buyer is entitled to KNOW these FACTS and to be TOLD and SHOWN that there are POSITIVE PROTECTIONS provided by the lighting industry, which assure him that the equipment he buys is in the GOOD EQUIPMENT BRACKET . . . the QUALITY BRACKET. *Proof of Quality* in lighting equipment IS MADE EASY through such proof elements as:

CERTIFIED BALLAST LABEL

RLM LABEL

UNDERWRITERS' LABORATORIES LABEL

ELECTRICAL TESTING LABORATORY TESTS

These provide the buyer not only with the assurance that MINIMUM STANDARDS for performance have been met, but also that UNIFORM QUALITY is continuously maintained from one piece of equipment to the other.

FREE Booklet . . . The RLM Standards Institute has published a booklet containing the detail of each specification for each type of lighting unit for which RLM Standards have been established, as well as a complete summary of the IMPORTANCE OF THE LABEL in terms of CUSTOMER BENEFITS.

How the RLM Label provides assurance that the equipment is of uniformly high quality is shown through an outline of the RLM CONFORMANCE PROGRAM. Under this program, the Electrical Testing Laboratories make periodic tests of samples obtained from factory or market place to make sure that all equipment bearing the RLM Label consistently and continuously adheres to RLM Standards.

Make the RLM BOOKLET a part of every Planned LIGHTING PROPOSAL! . . . Write to the RLM Standards Institute for your COMPLIMENTARY COPY (or copies) of the RLM SPECIFICATION BOOKLET *today*. Plan to attach a copy to every PLANNED LIGHTING proposal you submit . . . let it help you point out to your customers that GOOD EQUIPMENT IS BASIC to GOOD PLANNED LIGHTING.

the PUBLIC is entitled to KNOW these FACTS about GOOD LIGHTING EQUIPMENT

CONSTRUCTION: Good Lighting Equipment features structurally sound fabrication and heavy steels for maximum resistance to sag, distortion and breakage.

FINISH: Good Lighting Equipment features reflector finishes that insure your getting all the light you pay for . . . this year and ten years from now! That is why good equipment so overwhelmingly features PORCELAIN ENAMEL – the sure and only commercially available finish that cannot deteriorate or corrode, regardless of the industrial atmosphere. Additional advantages of Porcelain Enamel are (1) that it is the only finish whose original efficiency can be sustained year after year by simply washing it with soap and water, and (2) that it is UNSURPASSED as a reflecting surface, because it ideally combines a high reflection factor with a high diffusion factor, insuring high light output with a minimum of glare.

REFLECTOR DESIGN: Good Lighting Equipment insures good lighting through reflector design that conforms to the most accepted principles of Illuminating Engineering. Such design protects the workers' eyes while delivering, not only the *most light* per dollar, but also the *required quality of light* for the individual Seeing Task.

SOCKETS, STARTERS, LAMPHOLDERS: Good Lighting Equipment features ruggedly constructed parts that withstand years of use and embody special design which facilitates quick, money-saving maintenance and low cost operation.

BALLASTS: Good Lighting Equipment insures you against trouble by employing only the highest quality certified ballasts. Ballasts last longer because sound electrical and mechanical design prevents high temperature ballast operations. Lamps last longer because certified ballasts supply proper starting current and maintain proper operating watts to the lamp. Present wiring capacity is good proof, although by the high power factor of quality ballasts.

This Advertisement is published in the Interest of the Entire Lighting Industry by

RLM STANDARDS INSTITUTE

The letters RLM stand for Reflector and Lighting Equipment Manufacturers

RLM STANDARDS INSTITUTE, SUITE 823, 326 W. MADISON ST., CHICAGO 6, ILL.

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APPLETON *Malleable Iron* UNILETS

Appleton Form 35 Malleable Iron Unilets save time. They eliminate loss due to damage and breakage. Available in threaded and no-thread types, their superiority over fittings made of any other material has been proven on thousands of construction and maintenance jobs!

The complete Appleton Line answers every fitting requirement, from simple steel outlet and switch boxes to big, heavy-duty explosion-proof types.

Write for Complete Catalog Information

- ✔ Precision Engineered to Install Easily . . . Save Time!
- ✔ Smooth Finish . . . Clean Threads . . . Greater Wiring Room
- ✔ Made of Unbreakable Malleable Iron Lighter . . . Stronger

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APPLETON

CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES • EXPLOSION-PROOF FITTINGS • REELITES

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

Apply the SURE CURE for Fading Lights!

Lights go dim? Blink?

When you aren't getting the light you require, in spite of a well-planned lighting system, it's often a sign of undervoltage, the inevitable result of growing or changing loads that tax existing circuits. Correct this quickly, economically.

APPLY THE *SURE CURE*: Bring high-voltage power close to load centers with Westinghouse Dry-Type Transformers.

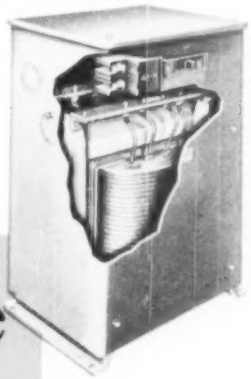
Overextended or overloaded lines cause voltage to drop. A loss of only 10 volts in a 120-volt circuit cuts incandescent light output 25%, makes fluorescents dim and often unstable. Motors, heating equipment and other electrical apparatus lose proportionately. But taking high-voltage power close to secondary loads reduces voltage drop and minimizes power losses.

Because Westinghouse Dry-Type Transformers are smaller and lighter, they can be installed easily. There is no need for fireproof vaults—mount them overhead, on shelves, posts or platforms. Welded sheet steel cases completely enclose the transformer for safety and a trim appearance.

You can be sure of effective correction of overloaded circuits with Westinghouse Dry-Type Transformers. For complete information, write for Booklet B-4009, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna. 1-70544

NOW AVAILABLE WITH BUILT-IN CIRCUIT BREAKER

New Types AJRB and AVRB give you a transformer and circuit breaker in a single, compact package. The need for separate protective devices is eliminated.



Westinghouse

DRY TYPE TRANSFORMERS

Sell Planned Lighting easier, faster with this new book!

94 pages of useful sales data

HERE'S one of General Electric's latest aids to selling Planned Lighting. It's an up-to-the-minute book you can show to prospects for every type of lighting. And it's been proved in actual use. "Planned Lighting Guide Posts" contains 94 pages, with pictures of all types of lighting installations, and pointers that will make your lighting sales easier.

And this manual is packed with essential information every salesman should have to do a real job of planning lighting for offices, factories and stores.

Five clearly written chapters cover lighting fundamentals, lighting design and layout, office lighting, factory lighting, and store lighting.

A COMPLETE SALES TOOL

In addition to the technical pages shown at the left, "Planned Lighting Guide Posts" is packed with selling copy. Between its two covers you have a sales story on every type of lighting, plus facts to back you up!

HOW TO GET YOUR COPY

"Planned Lighting Guide Posts" is available through your G-E Lamp District Office at cost—$1.10 a copy. It's another part of General Electric's extensive lighting program of action to help you sell more Planned Lighting in your area. Call your nearest G-E lamp office today.

GENERAL ELECTRIC

INVEST in *Sight* through BETTER *Light*

LATROBE HIGH SCHOOL
Latrobe, Pennsylvania

McElroy & Fenton,
Elec. Con.

Classroom and school lighting, like all other lighting installations, must be "right" if eyesight is to be conserved and working efficiency achieved. The practical application of light is a science, but good lighting costs no more. Pittsburgh Permaflector Lighting Engineers stand ready with practical ideas and suggestions. They will work with you to help solve individual illuminating problems involving all types of applications. Send for details.

"The Monroe"
Fluorescent Luminaires

DESIGNED FOR SCHOOL and OFFICE LIGHTING

2 or 4-lamp units, using standard or slimline lamps, in a choice of steel, Alzak aluminum or formed-plastic side-panels.

WRITE FOR "PLANNED LIGHTING FOR MODERN SCHOOLS" It's the picture story of how "The Monroe" and other Pittsburgh Permaflector Equipment has been used in schools.

PITTSBURGH REFLECTOR COMPANY

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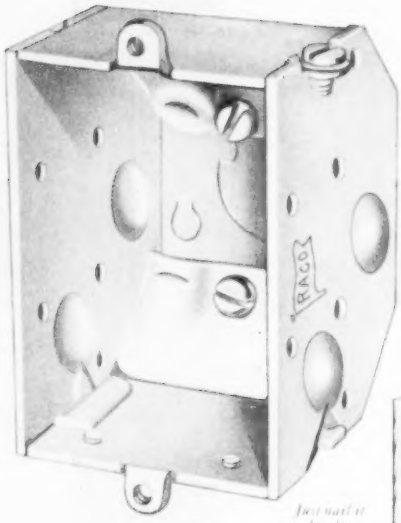
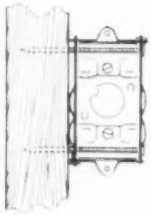
MANUFACTURERS OF FLUORESCENT & INCANDESCENT LIGHTING EQUIPMENT

Permaflector Lighting Engineers in All Principal Cities

PITTSBURGH PERMAFLECTOR LIGHTING EQUIPMENT IS DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE

THE BUMPS DO IT





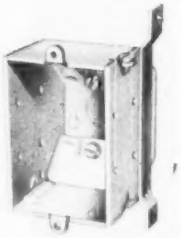
Just nail it on. It aligns itself.

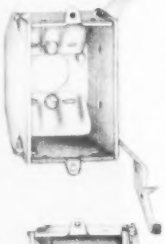
. . . when you nail these boxes directly on studding, they align themselves

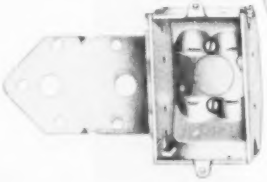
These Raco "economy" switch boxes fasten firmly to studding in new work simply by nailing through the holes provided. It's a fast mount. And you get perfect alignment because the levelling "bumps" have the added height and engineered spacing to line up the box with the studding in exact position. No danger of compressing the sides. Ears have been eliminated for economy.

And—an added Raco feature—the "straight-thru" nail holes are large enough for 16D nails.

This economy style is available in all types of switch boxes . . . all Raco quality, of course.







BRACKET TYPE BOXES

FLAT BRACKET
—this is a sturdy bracket which allows the box to be adjusted to all wall thicknesses.

SIDE MOUNT
—a new bracket on a nationally popular box, especially formed for door frame clearance. The bracket is gauged for standard wall thickness. "Break-off" gauges allow adjustment to all wall thicknesses.

FACE MOUNT
—a newly redesigned bracket, with rounded safety-style corners. Bracket is also equipped with nailing prongs.

RACO

ALL-STEEL PRODUCTS

There's a RACO Bracket Mount Box for Every Job

ALL-STEEL EQUIPMENT Inc.—800 Kensington Ave., Aurora, Illinois

YOU CAN ALWAYS RELY ON RACO

ELECTRICAL SOUTH

VOL. 30 JUNE 1950 NO. 6

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"MY CUSTOMERS ARE MY BEST SALESMEN"

says John J. Rickert, V. P.
American Ventilating Corp.
27 Park Place, New York City

—another successful seller of American Blower Ventilating Equipment

"Time after time I've had folks come in and ask me to install an attic fan just like the one installed in a neighbor's house," says John J. Rickert. "Invariably, the fan they wanted was built by American Blower.

"After 18 years in the ventilating business, I'm convinced that in the long run it pays to sell and install quality products built and backed by a reputable manufacturer.

"And that's why I recommend American Blower Air Handling Equipment whenever I can. It's quality equipment, sensibly priced, easily installed, and carries capacity ratings that are accurate and Certified. A customer gets full value for his money."

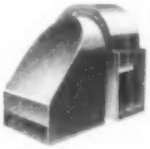
If you're interested in building a better business where your customers are your best salesmen, sell American Blower Air Handling Products. Ask your nearest American Blower Branch Office for details.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICH.
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

Division of AMERICAN RADIATOR & Standard Sanitary Corporation

Packaged Ventura Attic Fan—Built for vertical operation in low bridge attics. Only 10 easy steps to install. Ratings are Certified. A real profit maker.

Model A Ventura Fans—Smartly styled. No exposed wiring. Smooth, easy-to-clean surfaces. Built in capacities from 1000 to 9500 cfm. Free delivery 12 cfm.



Utility Sets—Fine air supply or exhaust fan-motor schedule etc. Have Adcom Control for regulation of air flow. Capacities from 317 to 17,945 cfm at 5/7 SP.

SELL QUALITY!

AMERICAN BLOWER

Air Handling Equipment

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER
CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

Isn't this a pretty kettle of fish?

SURVEYS reveal an appalling misunderstanding among young people of the "facts of business life." For example, a poll was made among seniors in certain high schools which showed that they believe business profits are "over 50%" of the sales dollar, where actually profits average less than 8%. These students also think that stockholders receive 24% of the sales dollar, where actually it runs less than 3%.

Isn't this a pretty kettle of fish?

A greater part of the 8% of the sales dollar is reinvested in the business to expand and improve plant facilities which protects employment and creates new jobs for more workers.

Such ignorance is alarming. It is unfair to the young people themselves and dangerous to America's furture. Such misconceptions open the door to socialism, communism and all the fantasies of the handout or "something-for-nothing" state of the economic dreamers.

Our school teachers say they *want* authentic information on the business system and how it works. Only business itself can supply the facts. You as a business leader in your community must share the responsibility for this misunderstanding. It is our civic duty to help overcome this misconception of everyday economics in the minds of our youth today.

The Youngstown Sheet and Tube Company

General Offices--Youngstown 1, Ohio

Export Offices--500 Fifth Avenue, New York

MANUFACTURERS OF CARBON ALLOY AND YOLOY STEELS

ELECTROLYTIC TIN PLATE - COKE TIN PLATE - WIRE - COLD FINISHED CARBON AND ALLOY BARS - PIPE AND TUBULAR PRODUCTS - CONDUIT - RODS - SHEETS - PLATES - BARS - RAILROAD TRACK SPIKES.

DO WE WANT "FREE" ENTERPRISE?

No. 2 in a series of editorial messages

WE'VE been hearing a lot about our "free enterprise" system. But what's "free" about it? Is it, as we are sometimes led to believe in an election year, a system under which a governmental Santa Claus is supposed to provide us with a bountiful supply of free goods and services?

Not at all! Our "free enterprise" system means freedom of opportunity to engage in any business enterprise we may choose.

In the pioneering days in this country, each family built its own home, raised its own food, made its own clothes. But long, hard hours of toil were required to produce just the bare necessities of life. Gradually it was found that more goods and services could be made available if each person specialized on some one trade or occupation. So we developed into a nation of farmers and carpenters and plumbers and manufacturers and storekeepers.

In this development there has been opportunity for all, limited only by individual ability and industry. There has been freedom to engage in the occupation of one's choice. There has been incentive to work hard and efficiently, for the rewards have been in proportion to what each one produced.

To keep the "system" operating satisfactorily, the necessary checks and balances have been imposed automatically by the law of supply and demand. If, for instance, too many people began to make shoes, the supply soon became greater than the market would absorb and the less efficient operators had to find other occupations.

Under this system with its automatic checks and balances and its rewards for efficient performance, we have attained a standard of living which is the envy of the entire world. We have more than three-fourths of all the world's automobiles. We have 30,000,000 electric refrigerators and we have nearly 40,000,000 radios, or an average of about one for every home. And along with a constant increase in the per capita production of goods and services, we have steadily reduced our working hours. We have more time for recreation and play.

If this system has worked out so satisfactorily, why is it necessary to defend it? Actually, the principle of free enterprise needs no defense. There are relatively few people in this country—communists or socialists—who are openly opposed to our economic way of life. But what we must guard against are those who, under the guise of "economic planning," would gradually cripple and finally destroy our free enterprise system.

"Let us take care of you from the cradle to the grave," say some of the politicians and economic planners. "Let us provide low-cost housing, low rents, free medical services, ultra-modern schools, super highways. Let us give high prices to the farmers and low grocery bills to the consumers. Let us provide higher wages and shorter working hours by legislative decree instead of waiting on the natural economic processes. And along with all this, let's set up such large social security benefits that it will not be necessary for you to work hard and save for the proverbial 'rainy day'."

Unfortunately, the economic planners do not realize or purposely ignore these simple truths. We cannot legislate a higher standard of living; it can be attained only by increased production of goods and services. We cannot spread prosperity by printing and distributing more money.

In their glittering promises the economic planners set up the mirage of a welfare state in which government provides complete security for its citizens and makes prosperity automatically available to all. But what has resulted from such promises in Britain—or in Russia?

Our "free enterprise" system—with its opportunity and incentive and freedom for the individual—has brought to America the greatest prosperity and widest diffusion of wealth that any nation has ever known. That is a proven fact. In striking contrast is the dismal record of socialistic experiments in other lands.

THE MOST *Beautiful* INDIRECT INCANDESCENT LUMINAIRE

DECORATIVE ❄ EFFICIENT ❄ ECONOMICAL

Curtis SNO•FLAKE presents an entirely new concept of design for indirect incandescent illumination. It combines startling beauty with many functional features. The SNO•FLAKE'S high efficiency and economy in installation and maintenance make this excellent new unit ideal for school rooms, offices, stores, and other commercial interiors. The die-cast aluminum louver follows a pleasing geometric pattern that blends with any decorative scheme. Open top and bottom, this louver requires a minimum of maintenance. Original efficiency of the luminaire is regained with each relamping. The SNO•FLAKE utilizes either 300 or 500 watt silvered bowl lamps which assure the high efficiency demanded for modern illumination.

WITH THE CURTIS MAN
Plan *Lighting*

Full technical details and specifications on the SNO•FLAKE are illustrated and described in Bulletin No. S-W-6, Dept. SE-617. Get your free copy to supplement your Curtis catalog.

CURTIS LIGHTING, INC., 6135 W. 65TH ST., CHICAGO 38, ILLINOIS

OUR READERS SAY—

Readers are invited to make use of these pages to express their own views on timely subjects.

◆ ELECTRICAL SOUTH fills a six-fold purpose in our organization because each of our six men takes each issue of the magazine home with him for study. Articles that contain material particularly applicable to our type of work are often marked for reading, but we know that we get a lot of benefit from our men reading about how other contractors do their work, whether the jobs are big or little, or entirely different.

After an issue has finished its rounds, we file it away in the office for future reference and ready availability. They may be taken out by any of our employees. It is not uncommon for some of our men to take several back issues home with them when they get their turn at the current issue, and ways and means of handling jobs as outlined in ELECTRICAL SOUTH articles are often discussed at our shop meetings and compared with our own in our everlasting search for a better way of doing things.

This is just to let you know that your magazine is appreciated and considered one of the best.—**A. E. Fischer, A. E. Fischer Company, Jefferson City, Mo.**

◆ ON A LIGHTING JOB recently completed we ran into a situation where theory and practice didn't jibe. Practical experience showed us in advance that certain changes would have to be made in the original plans in order to get the result desired. We contracted to install the lighting fixtures in the store of one of the leading local merchants. The number of fixtures, the candle power, etc., was theoretically determined by an agency specializing in this work. While reviewing their figures, we had a strong feeling that the resulting illumination would be insufficient. The store itself was quite small—about 30 feet wide and about 100 feet long, however, the ceiling was unusually high—about 25 feet. No doubt the theoretical calculations would have proved satisfactory if the ceiling had been lower, say around 15 to 20 feet.

The original plans called for two parallel rows of louvered four-40-watt fluorescent fixtures running the length of the ceiling, two 150-watt accent spotlight fixtures in each row. The spotlights were focused to give extra illumination in the mirrored alcoves where male customers try on hats. Incidentally, the store specialized in men's hats.

The two rows were approximately nine feet apart. We decided to put in a third row, midway between the two, with no spotlights in this intermediate row. Everybody was pleased with the results; we were satisfied and the proprietor was happy. With the intermediate row having its own switch, it is easy to turn out this row and thus show how the other two rows by themselves do not give sufficient illumination.

Although theoretical calculations can usually be relied upon, it is wise to draw upon your experience or use your experience as a "double check" to make sure that the job is going to turn out right. A little careful forethought along these lines will save you a lot of embarrassment. — **Pat W. Bordelon, Salem Fluorescent Maintenance Service, New Orleans, La.**

◆ MAY I compliment and congratulate you on the firm position you have taken in your No. 1 Editorial in the May issue on the tragic trend toward Socialism in our Government and in our Country.

The reckless imprudence and extravagant wastefulness in our Government cries aloud for correction and perhaps your editorials will be the means of reaching and arousing a few in a crusade for sanity in spending and a restoration of morality of thinking at the head of our Government. — **H. A. Pendergraph, H. A. Pendergraph Co., Atlanta, Ga.**

"If you'd take it easier like Mr. Wilton, you'd live longer!"

◆ We electrical contractors in Houston, Texas, have just recently had an atrocious city ordinance forced upon us. And the deplorable feature of the whole thing was that there was no effort by the contractors, as a whole, to have the utterly ridiculous clauses altered or modified before it was passed upon!

For example the headline in one of our daily papers: "Electric Code Hits Small Home Owners" failed to arouse them. By virtue of the new code, as explained in the article, a housewife who takes in sewing for the neighbors to bring in a few dollars puts her little home in the commercial building category, outlawing use of standard wiring approved by the National Electrical Code for home construction.

As a commercial building the little five room frame house—even though it's located out in the prairie—requires under the new ordinance the same standards in wiring that's required for the largest and most complex of commercial buildings. The heavily insulated wiring, admittedly of the cheaper type but approved for home construction, must be abandoned in favor of "BXL"!

The above was all included in one of the many articles trying to enlighten the public as to what was going on at City Hall. Hence, contractors could not miss these features, for they were widely discussed by the public in all walks of life.

This alone is a sad and deplorable reflection on the electrical contractors who would not en-masse raise their objection in behalf of their customers.

But that isn't the half of it!

Listen to this. If the journeyman on the job has to leave the job for any reason the apprentice must sit down, drop all tools, and wait idly until the journeyman returns to keep his eye constantly upon said apprentice. This will eliminate the apprentice. How many contractors can afford the luxury of paying a journeyman just to constantly watch the apprentice?

Sec. 489, and I quote, makes mandatory workman's compensation insurance, and . . . this insurance shall be in accordance with the provisions of the Workman's Compensation Act of the State of Texas. While it is obviously true that other types of insurance are available, the wording of this clause does not provide for its acceptance. According to the law employers with three or less employees are not eligible for this Workman's Insurance.

This cunningly devised code certainly nullifies the civil rights of the citizens of Houston, Texas.

And, I repeat, by their silence the electrical contractors of Houston, sanctioned this new code.

The question that arises is: Why?

Of course, any new electrical contractor will have to ferret out devious ways to get in. Perhaps, there are enough already. The insurance clause puts the skids under the small contractor . . . but, again, perhaps the small contractor didn't fit into the picture of Fabulous Houston. A small operator, he wasn't in position to do much for anyone but himself, his family, and the few customers he was trying to serve loyally and faithfully.

Obviously this new code was concocted for someone's benefit . . . but it wasn't the small contractor or the public at large.—**L. L. Peeples, Peeples Electric Co., Houston, Texas.**

"Oh, well - if we lived in the city, they'd be hitching rides on the back of streetcars and trucks!"

◆ We look forward to receiving Electrical South each month. We favor it over other trade papers by far. Particularly do we like your attitude toward us contractors in general. And for this reason, we would like to offer a suggestion.

Why not publish a few articles dealing with the contractor's overhead problems? The flagrant misunderstanding of what constitutes overhead is appalling! This is particularly true among the recent recruits going in business for themselves. Seemingly, they are of the opinion that there is no difference between gross and net profit. Their bids bear this out. And, hence, it makes us other boys' bids seem exorbitant and excessively out of line.

There is no competing against these bids. The only answer that we can see is to hold tight until they underbid themselves out of the picture. We don't feel this is being done with any malice or as a display of greed. We rather think it is due to their not knowing how to figure overhead as part of the expense, like materials and labor.

An article or two of this nature, we think would not only be enlightening, but a benefit to the industry.—**W. H. Kirk, Kirk Electrical Co., Houston, Texas.**

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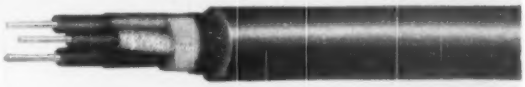
National Electric CAA-approved cables are recommended for airport lighting and signal circuits, as well as for street and highway lighting, municipal, power and other installations where *maximum dependability* is desired for underground wiring. The tough, specially-compounded Neoprene sheath affords complete protection against the destructive forces below the earth's surface, and gives outstanding protection when exposed to the sun and weather.

Depend on National Electric CAA-approved cables for safe, reliable operations in your next airport installation.



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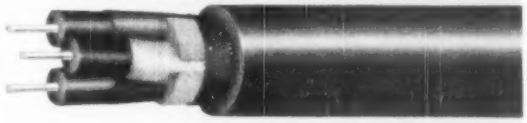
Flexlay, Style RR, Airport Lighting Cable, 600 Volt Rating, AWG Sizes 4 through 16. (Single and Multiple conductor available)



TYPE "B" OZONE RESISTANT CABLE

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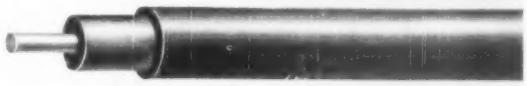

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National Electric
PRODUCTS CORPORATION
1307 CHAMBER OF COMMERCE BUILDING, PITTSBURGH 19, PA.

by H. E. Dare

Gulf Electric Company
Houston, Texas

This busway installation running the length of this laundry and dry cleaning plant provides adequacy and flexibility. First cost is probably higher than a conduit installation, but savings will result when equipment must be moved or new equipment installed. Tap-ins are practical anywhere along the duct route. When necessary, these tap-in boxes can be removed, the cover panel replaced, and the tap-in moved to another location.

Busway for Laundries

Advantages of busway distribution is not limited to large industrial plants as this article explains

◆ EVERY BUSINESS is confronted with its own individual problems. Yet, each business has general problems that are much the same regardless of the type of business. We have just completed the ideal installation for laundry and dry cleaning plants, according to the owners of a new plant here in Houston, and the system used may have wide spread use in other small industries.

The owners of the new Imperial Laundry and Cleaning plant have been engaged in this type business for over 16 years. They have learned from trial and error that electrical installations are costly in more ways than one, when the installation is not designed for this type of operation.

In order to give the client the best job possible, it's necessary to become acquainted with his problems. The laundryman and cleaner is continually faced with changes. Old equipment must be replaced with newer types; he must enlarge — if only to add new pieces of equipment to step up production.

Today, the modern laundryman knows that if he is to meet competitive prices and still show a profit, he has to set his equipment for straight line production. There can be no costly lost motion involved from criss-crossing. This means that as new pieces of equipment are added, the plant layout must be revamped. This, ordinarily, evolves a costly electrical job, but this can be eliminated once and for all. We think the installation at the new Imperial Plant does just that.

Ordinarily, this job would have taken some four thousand feet of conduit, plus three distribution centers. By utilizing bus duct in lieu of conduit, we eliminated the use of conduit other than where we tapped in along the line. With this system, we have only one dis-

tribution point, the lead in.

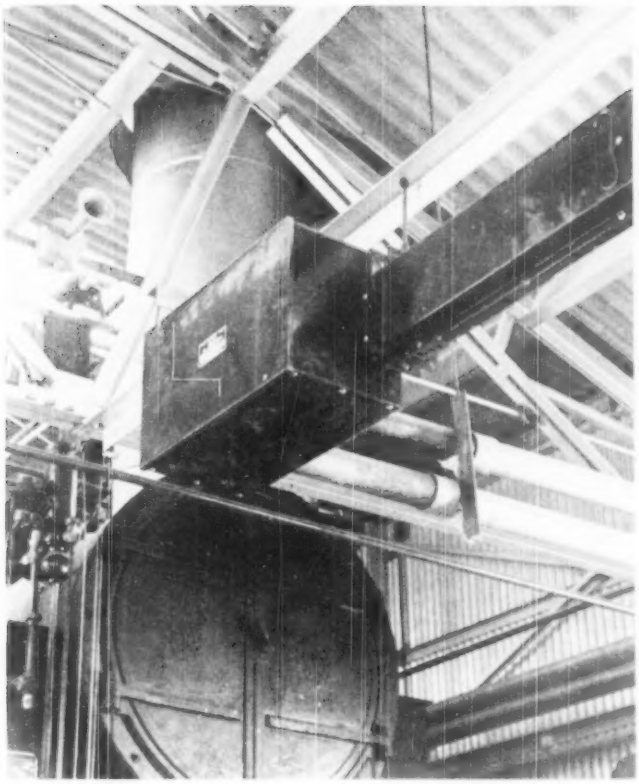
This installation provides for unlimited flexibility. As equipment is changed, or new equipment added, all that is necessary is to tap into the duct wherever it is most convenient.

Extractors demand a high starting current. We overcome this problem easily through the use of bus duct. We just tapped directly to the main feeders.

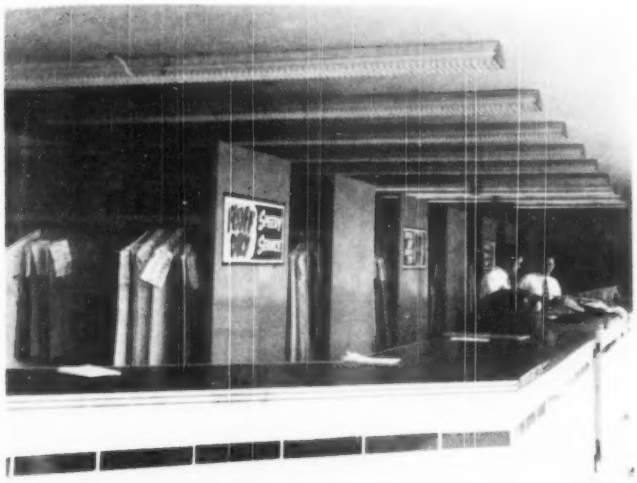
If you have had any experience trouble shooting in laundry and dry cleaning plants, you probably learned to look at the washroom first. Condensation and steam cause the conduit to collect water. This, of course, causes the insulation to deteriorate. All of this is eliminated through the use of bus duct.

The use of bus duct was not a dollar-saving venture. Flexibility, plus low maintenance cost, were the advantages sought. And this was what was accomplished to the owner's satisfaction.

At best, a plant of this nature has pipes to carry hot and cold water, and steam . . . and additional pipes only add to the confusion, when maintenance is needed. By eliminating the three load centers that ordinarily would have been used on this job, we saved 4,000 feet of conduit.



This box provides space for making connections from the service entrance to the busway.



Adequacy was built into the laundry's office lighting as well as in its electrical distribution system. An average of 35 foot-candles is provided by 21 eight-foot units lamped with 1½-inch tubes.

We gave the plant a neater, more efficient and flexible installation, one that will meet the operator's expansion moves for several years to come, and at a minimum of expense.

To complete this job, the owners wanted an office lighted in such a manner it could draw the attention of passing motorists. The office, which is a cash and carry service, measures 30 feet by 80 feet with a 9 foot-8 inch ceiling. To light this we used 21 eight-foot fixtures. 1½ inch tubing was used.

At the formal opening this new plant was visited by the city's leading laundrymen and cleaners. The flexibility of the electrical installation drew the most comments. Several plant operators told us that nothing less than an installation of this nature would ever satisfy them.

Diversified Services

Careful attention to thousands of little jobs is this contractor's formula for getting a sizeable number of big contracts

◆ BUILDING UP a repair service department so completely diversified that "Montgomery residents have gotten in the habit of calling us for any sort of electrical trouble" has proven a solid groundwork for large-scale contracting at Dixie Electric Company, 40-year-old electrical contracting organization of Montgomery, Ala.

While many contractors are likely to regard small-scale service as a mere accommodation, or eschew it altogether, President J. Noble Crump, of Dixie Electric Company, is likely to worry when service calls don't average 30 to 35 per day. "When service calls fall off, it means that less people are getting an opportunity to get acquainted with us, and consequently there are less opportunities for new installations," he smiled. "In other words, new installation contracting depends upon how well the service department does."

For more than a decade, Dixie Electric has emphasized service from every angle. They carefully trained personnel to handle a variety of repairs which few electricians feel called upon to perform; diversified shops and equipment to permit service to housewife or hotel owner; and devised a system which extracts maximum benefit from every service contact.

When Mr. Crump incorporated the firm a year ago, with many physical changes, service operations received still another boost with inclusion of more space, more assigned trucks, and more personnel. With Secretary-Treasurer Frank Jehle in charge, the service department is now so large that it is credited with handling 50 per cent of the Alabama capital's repair work, and is easily the largest repair organization in the state. Five of the 15 trucks which make up the rolling shops at Dixie Electric are usually assigned to service, and there is a crew of specialists in each branch which insures fast, impressive repairs when needed.

Repair service at Dixie Electric Company doesn't consist of merely rewiring, replacing parts, or making adjustments on installed electrical equipment. Instead, well aware of the importance of pleasing everybody and upholding a long established name for satisfying the need for any electrical repairs, the Alabama firm services major electric appliances, electrical housewares, such specialty items as electric shavers, timers and clocks, electric motors, controls, solenoids, thermostats, air conditioning equipment, and many varieties of refrigeration.

Specialists Used

On the staff in Montgomery are two refrigerator repairmen, for example, both veteran electricians, who were sent to the factory to learn repair work on each type of refrigerator found in the city's homes. Three more, in an upstairs shop at the rear of the building, are traffic appliance "virtuosos" who concentrate on coffeemakers, irons, toasters, and the long list of electric housewares in the average home. More shops cover air conditioning, heating, electric ranges, technical equipment, and commercial wiring repairs.

"All are equally important," Mr. Crump said, "since each repair job may well be the source of good will which will lead eventually to power wiring of a factory, new lighting for a business building, etc."

Thus, while Dixie Electric's major consideration is always huge new electrical installations—such as the 20-school buildings currently being wired and lighted—even the most apparently insignificant job gets proper attention.

To insure the reputation which such versatility is bound to create, a smoothly functioning repair service control system has been developed, after long study by Mr. Jehle. All repairs start at a minimum call charge of $2.50, plus time and materials on the site, no matter what variety of work is involved.

Handling 50 Calls per Day

Every repair call comes into Dixie Electric's dispatch office, a large, separate office equipped with overhead file racks, file cabinets, and identified boxes covering each department's operation. Here, from 30 to 50 calls per day are received, courteously answered, and the customer given an exact time at which to expect a Dixie Electric repairman.

Each call, as received, is "logged" on a daily report sheet, with brief details. From this point, a duplicate form sheet takes over, executed by the dispatcher, which governs all steps carried out in the service operation. The sheet, divided into columns and boxes, is 12-inches long by 8-inches wide, with a second copy in yellow, and one-time carbon inserted. On the sheet is entered name and address of the customer, time called, nature of the trouble involved, work to be done, and the time at which the serviceman should arrive.

In a box in the lower right corner is entered the name of the mechanic who will handle the job, with a series of columns in which the repairman can charge out time and materials, initialing them before turning in the sheet when the job is completed.

The duplicate yellow sheet goes into one of 35 metal bookbinders, one for each of the regular crew, depending on the training or type of repair work handled by the

(Continued on page 62)

Good Housekeeping

by C. Thomas

◆ "LOST TIME and motion are both malignant thieves," says W. H. Kirk, Kirk Electrical Company, Houston, Texas. "They not only steal the contractor's net profit, they provoke a feeling of irritation and exasperation."

Mr. Kirk was referring to a contractor's shop particularly. A shop that is more than a workroom . . . a place that soon becomes a catch-all for all the accumulated odds and ends. . . .

Of course from time to time a firm resolution may be made to put the shop in order . . . but before one gets to it . . . well, the good intention is sidetracked. But Kirk did make his threat good. For that is what his attitude finally became.

Today this shop has the appearance of a well kept supply house. At a moment's notice anything can be located without hunting for it, for the entire shop has been set up in a departmentized fashion.

Wire can easily become a nuisance factor around any contractor's shop. There are always pieces left over. Usually these are neatly coiled and . . . thrown in a heap with others of various sizes. Comes the need for a particular length and size . . . and it is much quicker to take the required length from a fresh coil.

"After a while these odds and ends become total waste," said Kirk. "The insulation becomes broken from being trampled on, they can't be found when needed, so when the shop needs more space in which to work, they are sorted out and declared unfit for use.

"It doesn't take much figuring to see that an appreciable amount of money can be saved by devising a means to keep these odds and ends of wire so they can be found quickly."

Kirk made a frame from 2 x 4's eight feet long and four feet wide. This was placed edgewise upon the floor and three cross pieces, equally spaced, were nailed in position. Another cross beam divided the width in half. This gave the frame 8 sections, each measuring two square feet.

At each section a hole was drilled just a trifle smaller than ½-inch in diameter. This made 15 holes. Into each one of these holes a three foot piece of ½-inch conduit was driven.

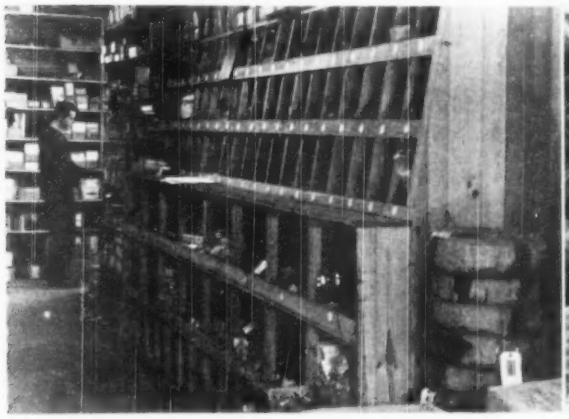
The reason for driving the conduit into the 2 x 4's is so the frame will rest level on the floor, eliminating the added trouble of bolting the pipe in place and countersinking the bolts.

"If anyone cares to make one of these," Kirk cautioned, "be sure you don't make the hole too small or the 2 x 4 will split."

This device takes care of 15 different sizes of wire. All left-over pieces of wire are coiled and the coils are dropped over the conduit stubs. Thus 15 different sizes and types are segregated and available quickly.

(Continued on page 61)

This welded pipe rack provides a convenient storage place for conduit L's. The taper from bottom to top takes care of variation in sizes. The storage bin for small parts shown below is of simple design and easily constructed. Separators of wire mesh in the deep lower bins permits better visibility than solid partitions would allow.



Electrical Safety

In Cotton Mills

Part I

by Swaffield Cowan

Engineer
Factory Insurance Association
Charlotte, N. C.

♦ THE SCOPE of this paper has been limited to cotton mills in which the raw stock, goods in process, and the lint, thrown off during the manufacturing processes and handling, is all highly combustible. This group will generally include those processing cotton and similar synthetic or natural fibres; pure wool processing might be considered an exception.

Cotton mills inherently present a very special type of hazard. The smallest spark that falls on open cotton or lint may develop a flash fire, traveling with exceptional speed over lint covered machinery, pipes, floor and walls. In the early days of this industry, special precautions were taken to control these hazards and reduce the areas involved. Among these was the development of automatic sprinkler protection; and the separation of more hazardous processes by fire walls or detachment.

While the existing hazards of light, heat and power varied little, the means of combating and controlling cotton mill fires improved. This improvement in fire protection continued until shortly before the first world war, when a condition was reached which we know now was the low point in their fire loss record. At that time most of the machinery was driven by belts and shafting, powered by water wheels or steam engines. The use of electricity for lighting and power was by comparison in its infancy.

Shortly after the first world war, cotton mills began to modernize and expand, which trend has continued at a rapid rate. This modernization probably would not have been accomplished without the aid of the electrical industry in developing the equipment for this progress. Engines and water wheels driving the mill shafting were replaced by large electric motors and their controls. These in turn were replaced (and for that matter are still being replaced) with individual electric drives, eliminating belts and shafting. Machinery has been speeded up, methods and processes improved and made more flexible; better lighting and ventilation have been provided. All of this has contributed to produce an era which, from an operating viewpoint, can be called one of great progress.

Fire Loss Trend Upward

Just before this era of progress began, the trend of the fire loss record of cotton mills was downward. However, the curve reversed, and the losses have been gradually increasing for many years; paralleling somewhat the increasing use and misuse of electrical equipment. The insurance companies and others have long been aware of this condition. The National Electrical Code has recognized it by the provisions of Article 500, Class III, Divisions 1 and 2. These requirements might well be a good subject for the discussion period which I presume will follow.

I do not believe that my viewpoint is that of a perfectionist, but it is my feeling that a necessarily high set of standards should and must be maintained as an objective. This is particularly true of any organization which is consulted for advice based on years of fire loss experience. We say, "Our experience has been burned into us."

Engineering judgment and special conditions will and do temper most questions involving cotton mills, making it impractical to adhere to a definite set of rules. We can however, work toward a betterment of existing conditions; and we should not be satisfied with equipment which our predecessors advocated, unless we are sure that it is doing the job which might rightly be expected of it.

The use (and misuse) of electrical equipment is believed to be largely responsible for the tremendous increase in cotton mill fires in recent years. By misuse of equipment I would consider exactly what the name implies.

Typical of examples which I recall are the use of splash-proof motors in dry, linty locations where totally enclosed non-ventilated or textile type motors should have been employed; the continued use of antiquated, obsolete, deteriorated and even dangerous electrical equipment which should have been replaced years ago; and the installation of spark producing equipment, such as starters, contactors, switches, when housed in enclosures which were designed not to confine sparks or exclude lint, but primarily to protect the user from accidental contact with the live parts within.

Last and certainly not the least, is the mechanical abuse to which such equipment is subjected, combined with the almost complete lack of what I would term good electrical maintenance. These conditions can be corrected, but it is going to require a real effort on the part of each and every one of us.

Electrical Fires Numerous

Trouble does not always result from every abused or misused piece of electrical equipment, but the percentage of fires whose origin has been traced conclusively

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This paper was presented at a Conference on Electrical Application for the Textile Industry, at Georgia Institute of Technology, April 13, 1950.

to electrical equipment is astoundingly high. During the year 1948 and considering only those cotton mills in the states of North Carolina, South Carolina and Virginia which had *filed* claims for one or more fire losses, the Factory Insurance Association received a total of 141 claims, of which 65 or nearly 50% were of electrical origin. The total claims amount to slightly more than $225,000, but the 50% of electrical origin produced nearly $200,000 in claims or nearly 90% of the total.

Weave Room Fires Lead

You might be interested to know that the largest number of electrical fires, as well as largest number of fires from all causes, occurred in weave rooms, where electrical losses constituted 52% of the total number; but moneywise, they amounted to 81% of the loss. Six of the seven cotton warehouse fires were of electrical origin. Remember now, that these figures include only those losses for which claims were filed, and that any small fire in a cotton mill is a possible major fire, if not quickly controlled. We must appreciate that with many of our cotton mills, it is the usual practice for losses of $50 or less to be absorbed and no claim filed. Frequently, some of the larger mills ignore losses of $300 and even more. Realizing that these figures are based on actual claims filed, I believe they warrant serious thought.

There are many electrical failures that produce only small "no claim" losses. Ask the plant electrician or mechanic how many failures he has. Do not ask him if he is having trouble, because his answer to that would be relative. Trouble is his job, and it is always with him; only when it becomes overwhelming does it result in complaints about it. If we want facts on which to base our efforts to improve this condition, let's get them from the one who knows firsthand, by direct questions. Let's not depend on the "front office" non-operating personnel for suggestions.

Cotton mills generally operate from a 550-volt, 3-phase, 60-cycle ungrounded system, and I shall confine my remarks primarily to such circuits. From the mill substation the transformer secondary circuit is usually run overhead, on multiple circuit, wood pole lines, to a central switchboard room. In some instances an outside feeder system is used with the transformer secondary extended along one side of the mill buildings, and with taps taken off directly to inside feeders. These taps in a way, might be compared to multiple services.

There seems to be little regard given to the number of taps, and frequently they are unprotected or protected only by small obsolete circuit breakers having very little if any, short circuit interrupting capacity. In such instances there is usually no other means of interrupting or breaking the circuit from the transformer other than the manually operated pole disconnect switches at the transformer.

In an emergency necessitating clearing of the long main feeder, the only safe means would be to first open the numerous feeder services to remove the load, and then to open the disconnects at the transformer. Obviously such an arrangement is not desirable from many standpoints. Such systems at their inception, must for some obscure reason have been desirable. As time has passed additional buildings have been added, new circuits strung on existing poles and other changes made, including probably progressive increases in substation and feeder capacities. This has left these mills faced with an entirely inadequate system.

There is the difficulty encountered annually from open outside feeders arising from lightning and lightning surges. Distribution type lightning arrestors have been installed on such lines for some time. These were not overly effective in reducing the breakdowns within the mill equipment, probably because of ineffective grounding of the protective equipment, and because the difficulty arises largely from surges rather than from direct lightning strokes.

In more recent years the application of suitable surge protection capacitors installed in parallel with the arrestors has been advocated. This has produced marked results in lowering the frequency of disturbances occurring during lightning storms. Again however, the effectiveness of such protective systems or devices is dependent on the effectiveness of the ground.

I have seen many lightning protective devices with their grounding conductors either disconnected at the arrestor or torn away at the base of the pole. I actually saw one installation where two of the three arrestors were out of commission, one hanging by its lead wire. When I asked the master mechanic why this had not been repaired, I was answered in this manner: it seems arrestors had been installed several years ago and the electrical failures from lightning had been reduced. However, he had found that he personally had to replace the lightning arrestors on several occasions. He learned that less personal physical effort was required to have his men replace a motor, than for him to climb the pole and replace an arrestor. He had taken the easier though more costly way out.

I cannot exactly say that this is misuse of electrical equipment, but surely is misuse of something. I feel that most cotton mills, certainly those in the southern storm belt, will welcome competent advice regarding lightning protective devices. We should remind them of the need to inspect those devices frequently before and during the lightning seasons and caution them not to overlook the need for maintaining low ground resistance values.

Check Ground Resistance

Since very few of our cotton mills have facilities for making ground resistance tests, electrical contractors could be of service in locating poor protective grounds and in selling the necessary corrective measures such as connecting to an underground water main, driving multiple grounds, driving deeper grounds, or even salting.

Considering again the power supply, the older mills which utilized a switchboard, often located it in a corner of the machine shop. It usually consisted of a number

(*Continued on page 60*)

1. Albert Klein, Jr.
Gulf Power Company
Pensacola, Fla.

2. W. F. Elders, Jr.
Houston Lighting and Power Company
Houston, Texas

3. Fillmore McPherson, Jr.
Appalachian Electric Power Company
Abingdon, Va.

Lighting

♦ Winners of 110 cash awards in the $21,000 nationwide planned lighting competition sponsored by General Electric's Lamp Department were announced at the Edgewater Beach Hotel in Chicago during the 16th annual sales conference of the Edison Electric Institute held recently.

Described as "an expression of appreciation to those who strive to bring maximum lighting benefits to users of G-E lamps," the competition was conducted in connection with the electrical industry's Planned Lighting Program.

The awards were based on the 32 outstanding planned lighting installations among the hundreds submitted. Twenty-four of the installations were in the commercial and industrial lighting classifications, and eight in the residential lighting category.

Awards of $100 each were made to individuals who have played key roles in planning, selling, supplying, and installing the lighting for the best installations. These persons include the electric service company's lighting representative, the wholesaler's salesman, the fixture manufacturer's salesman, the architect, lighting consultant or designer, and the electrical contractor.

Additional awards of $150 went to each person submitting reports of winning installations.

Several awards were made for outstanding installations in the South. Six of these are described and illustrated, and two are described only, as they were either not suitable for illustration or no photographs were available.

No. 1. Albert Klein, Jr., Lighting Engineer, Gulf Power Co., Pensacola, Fla.

Ordon's, "The Leader" store in Pensacola, has a standout lighting system which gives this apparel shop volume-getting appearance. In a space 76 feet x 44 feet with a 14-foot ceiling, lighting has pro-

Awards

Southern installations win eight places in nation-wide planned lighting competition

vided the merchandising layout with a very strong support from the show windows to the last counter in the rear of the store.

A louverall ceiling over the main selling area keys the appearance and the selling-with-light merchandising plan. S l i m l i n e lamps in continuous rows on three-foot centers are mounted on the ceiling about three feet above the louver grid. Wall areas are kept in the related brightness pattern by valance lighting and recessed R-40 flood lamps located around the outside of the louverall ceiling.

A circular area at the rear of the store is lighted by an outer and inner cove equipped with 40-watt and 15-watt fluorescent lamps respectively. Extra punch lighting for display is supplied by six 150-watt recessed filament downlights arranged around the center of the luminous circular ceiling area. Foot-candles in the main selling area are maintained at 80.

Co-winners with Mr. Klein on the award-winning installation were: John K. Wyatt, Graybar Electric Co., Pensacola; Eddie Peake, Jr., of Peake-McMorris Electric Co., Pensacola; and A. M. Quarterman, of Yonge and Hart, Pensacola architects.

No. 2. W. F. Ehlers, Jr., Residential Lighting Dept., Houston Lighting and Power Co., Houston, Texas.

Another prize-winning installation was in the home of A. F. Haven, 4005 Chatham Lane, Houston, Texas.

The lighting features modern built-in fluorescent lighting in several rooms. A view of the

4. Bob H. Watt
Watt Plumbing, Air Conditioning, and Electric Co.
Tulsa, Okla.

5. E. B. Richey
Manufacturers' Agent
Birmingham, Ala.

6. Ralph L. Erick
Kentucky and West Virginia Power Company, Inc.
Ashland, Ky.

living room, shown in the accompanying photograph, reveals how a wall-to-wall cove with three 40-watt fluorescent lamps and a lighted window valance using two 30-watt fluorescent lamps gave this $23,000 house some of the advantages of modern up-to-date, built-in lighting. Fluorescent valances were also used in several other rooms to give the windows a luminous appearance at night.

In addition to the fluorescent lighting in the living room, two floor lamps using 100 300-watt incandescent bulbs, two table lamps with 50 150-watt bulbs, and one 25-inch end table lamp with the 150-watt R-40 bulb completed the lighting in the room.

Other Houston residents who, along with Mr. Ehlers, won cash awards for their part in the lighting installation in the Hagen home were Marlin Associates, who supplied the lighting equipment, and S. N. Adams, who installed the equipment.

No. 3. Fillmore McPherson, Jr., District Commercial Manager, Appalachian Electric Power Co., Abington, Va.

Although electric lighting has become the universal illumination standard in the U.S.A. in the 70 years since Edison's invention, its use in many rural communities is of fairly recent date. In this school library relighting installation, modern fluorescent equipment providing 40 foot-candles of comfortable illumination represents a large step forward. This system replaces previous lighting consisting of exposed lamps on drop cords.

Mr. McPherson says, "The importance of this installation . . . is not the size . . . or . . . any special design characteristic . . . but rather the wide interest it has developed in improved school lighting. . . . It is to my knowledge the best lighted school room in at least five counties of southwest Virginia served by the Abington District of the Appalachian Power Company. Bethel High School, at Abington, is typical of many rural high schools in Virginia."

Sharing the honors with Mr. McPherson on the school lighting job were William Poston, Superior Sterling Co., wholesaler, Bluefield, W. Va.; and James J. Johnson, lighting specialist, Westinghouse Electric Corp., Bluefield, W. Va.

No. 4. Dale H. Watt, professional engineer, Watt Plumbing, Air Conditioning, and Electric Co., Tulsa, Okla.

The relighting of this reception area is in a building owned by the Oklahoma Natural Gas Company at Tulsa.

Above a translucent Plexiglas paneled and louvered ceiling, 40-watt G.E. 4500 white fluorescent lamps were used. The luminous paneling is mounted nine feet above the floor and three feet below the fluorescent lamps. The system was designed to deliver comfortable lighting for casual reading (about 42 foot-candles on the sofa) and afford the receptionist a preferred position with 52 foot-candles at the work level on her desk. The ceiling is white, the walls tan and brown, the carpet is red, drapes are green.

Co-winners with Mr. Watt were M. J. Myers, Jr., Tulsa Public Service Co.; A. N. DeEspenza, Lawson Electric Co., Tulsa; George Watts, Guth Fixture Co., St. Louis, Mo.; and Fred Wolcott, designer, Oklahoma Natural Gas Co., Tulsa.

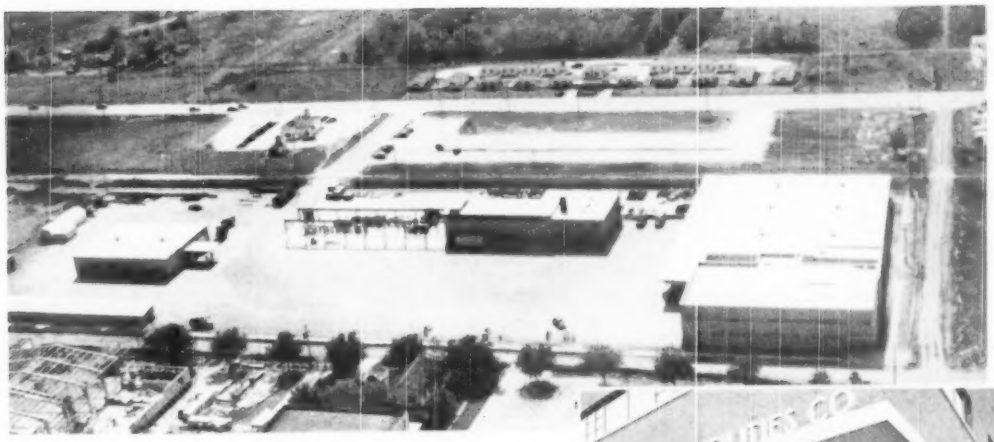
No. 5. E. B. Richey, Manufacturers' Agent, Birmingham, Ala.

Shades High School, in a community of 12,000, in the vicinity of Birmingham, represents a standard in educational facilities which the local Board of Education would like to provide for all students. For the present it is very much a model and reference example.

The classroom picture speaks for the objectives the Board would like to see realized in all classrooms. Both daylight and artificial illumination are related here so that with varying outdoor conditions the level of illumination for classwork may be maintained at easy seeing conditions. Thus the directional glass brick

(*Continued on page 58*)

L. J. Campbell, Southeastern District manager, General Electric Lamp Dept., is shown presenting checks to participants in a prize-winning installation in Birmingham, Ala., in General Electric's planned lighting competition which was held recently. Left to right are, Mr. Campbell; Louis Dunn, Crook-Dunn Electric Co.; E. B. Richey, manufacturers' agent, who reported the winning installation; Jack Wilson, Matthews Electric Supply Co.; Charles E. Davis, Van Keuren, Davis, & Co.; E. B. Van Keuren, Van Keuren, Davis, & Co.; and Hugh Roberts, Birmingham Electric Co. The award was presented for the lighting of a new school in Homewood, Ala.



Service Center

by H. P. Davis

Senior Resident Engineer
Stone and Webster Engineering Corp., Beaumont, Texas

◆ SITUATED ON a six-acre site approximately two miles west of Beaumont's business and shopping district, Gulf States Utilities Company's new service center culminates planning which began before Pearl Harbor.

This modern development now serves as headquarters for some 300 employees who maintain the Beaumont Division electric transmission and distribution system in top - notch operating condition. Purchasing, stores, and stores accounting for the company's Texas operations will also be centered at the new headquarters.

The new facilities consist of a two-story office building, one-story storehouse and service building, a two-story line and substation building, garage, paint shop, car storage shed, pole storage yard, an unloading dock 60 feet wide and 250 feet long paralleling a railroad spur, concrete paving covering an area 134 feet by 172 feet for heavy equipment storage, plus nearly four acres of asphalt-paved yard space. The entire area is enclosed by a cyclone fence with access being from both the east and west sides of the property. An adjacent two-acre tract owned by the company is available for additional parking, and for future expansion.

Working Conditions Top

One has only to visit the new service center to appreciate that Gulf States Utilities Company has created an efficient transmission and distribution headquarters, and while doing so included several refinements which combine to result in exceptionally fine and pleasant working conditions for the employees.

Take, for instance, the assembly room with its adjacent locker room and showers on the second floor of the lineman's and substation building. Designed to accommodate linemen on stand-by duty during storms or emergencies, the room also will be used for safety meetings and other employee training groups. Then there is the auditorium with its stage demonstration kitchen on the second floor of the office building. This room is for public appliance demonstrations and is also useful for employees' meetings and educational movies.

On the same floor the utility kitchen and an adjoining [illegible] permits the serving of meals to employees during emergency operations. An ultra-modern all-year heating and ventilation system is a feature of the office building. The buildings were designed with an aim toward low maintenance costs, yet the whole layout has an eye appeal which is enhanced by the carefully worked out color scheme.

The project was designed by the architectural firm of Gideman and Reilte and D. E. Steinman of Houston and Beaumont. Construction was accomplished under

the direction of Stone and Webster Engineering Corporation, and was completed in March, 1950.

Office Building

The two-story office building measures 82 feet x 138 feet and provides for the load dispatcher's office, purchasing and stores accounting, meter repair, radio laboratory, appliance repair, and the stationery department on the first floor, while the distribution, engineering, safety, and claim departments are located on the second floor, which also accommodates a conference room and auditorium with stage demonstration kitchen and utility kitchen.

The structural framework consists of steel columns and girders with bar joists for support of the second floor slab and roof. The first floor reinforced concrete slab is approximately three feet, six inches above ground level and rests on hydraulically deposited sand fill. Exterior walls are cavity construction masonry consisting of four-inch buff colored face brick backed with one-inch parging and eight-inch hollow tile. Limestone is utilized for window sills and coping. Corridor and other main partitions are of hollow tile while steel stud and metal lath construction was used for plastered inter-office partitions.

Interior wall surfaces in general, are plaster on tile or metal lath, while ceilings are either plaster or acoustical tile. Walls of toilet rooms have ceramic tile wainscots, and smooth buff hollow tile was used for walls in equipment and shop rooms.

With the exception of the terrazzo lobby floor and the stairways, and the ceramic tile toilet floors, asphalt tile is provided as a floor surface. Other minor exceptions include the hardwood floor of the auditorium stage and

An outstanding feature of the new Service Center, recently put into operation by Gulf States Utilities Co., at Beaumont, Texas, is its material handling equipment. At every point where heavy materials or equipment must be handled, the most modern industrial equipment for such handling has been utilized. Some of this equipment is to be seen in the illustrations on these pages.

the rubber tile laid on the floors of both the demonstration kitchen and the utility kitchen.

The main entrance of the office building is of aluminum and plate glass while other entrances have industrial steel doors. Interior office doors are natural finish white oak.

As well might be expected in a building for this purpose, light is provided mainly by quick-lighting fluorescent tubes installed in fixtures of the latest design. Particular emphasis was placed on the lighting of the drafting room where a system of fluorescent tubes was installed over an egg-crate louver which covers the entire ceiling and provides maximum illumination. Exterior areas are floodlighted.

Features common to all the new buildings include a painting scheme derived from the latest developments in the science of color dynamics, steel casement and stationary sash glazed with bluish-green heat absorbing polished plate or hammered and frosted glass, aluminum gutters, downspouts and trim together with roofing composed of built-up aluminum laid on gypsum poured over sheetrock.

Heat Pump Utilized

Air conditioning for the office building is provided by a heat pump system. The system is comprised of an electrically driven mechanical heat pump of 150 tons capacity, the principal components of which are constant temperature water wells, two 75-hp York Freon compressors, condensers and water chillers, circulating water pumps, air handling units utilizing the same water coils for heating and cooling, an all-sheet-metal duct distribution system, and automatic control instruments. The equipment is sized to accommodate a future addition to the second floor portion of the building.

Operation of the heat pump is briefly described as follows:

For cooling, heat from the air-conditioned space is transferred through finned coils in air handling units and carried by circulating water to water chillers where it is transferred to the

(Continued on page 56)

Electronic Motor Tests

♦ Reduced costs for motor rewinding by the use of an electronic winding insulation tester have been reported by a utility company operated repair shop responsible for the repair and rewinding of motors and other miscellaneous heavy electric equipment for the company's generating stations, substations, and gas manufacturing plants.

According to the test supervisor, this new test device, manufactured by General Electric Co., has enabled the company to cut costs by reducing the amount of time it takes to find a motor fault.

Prior to installation of the winding-insulation tester, the shops occasionally experienced difficulty with repaired motors which appeared to be in satisfactory operating condition according to the tests that could be made, but which failed when placed in service. The new tester was installed with a view toward establishing a quick, dependable method of final testing of assembled motors in order to minimize these costly failures.

An average of 15 to 20 motors, ranging up to 1000-hp in size, are tested per month in this company's shop. The motors tested are all three-phase and operate on 220-, 440-, and 2300-volt power supplies.

Wide Range of Uses

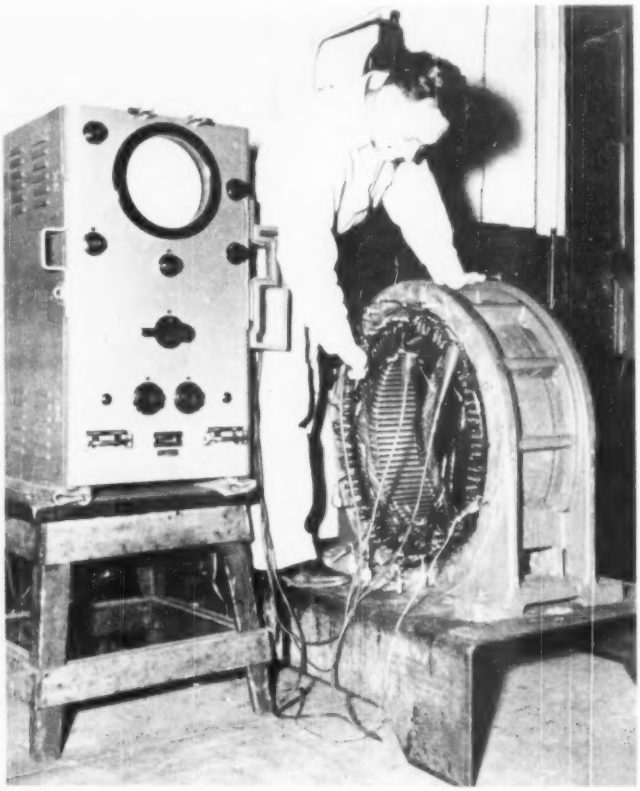
Besides being used to test all rewound and repaired motors, whether they are to be placed in immediate service or put in storage for emergency use, the winding-insulation tester has been useful in locating reversed coil connections, coils with damaged insulation, unbalances in the magnetic circuits in the three phases of the motors, and other faults. On occasion the tester is taken into the field to test motors which cannot be moved to the shops for repair.

The instrument is a repeating-type surge tester which detects faults and winding dissymmetries in motors, generators, transformers, and coils. It simultaneously tests turn-to-turn, coil-to-coil, and coil-to-ground insulation. Qualitatively (i.e. where specific quantitive readings are not required), resistance, impedance, turn-balance, and complete high-potential tests are all made with one voltage application. Defects are indicated on a cathode-ray oscilloscope which is built into the tester.

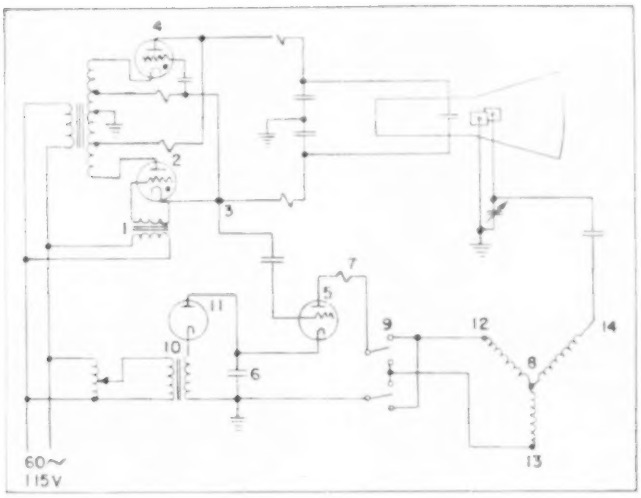
The voltage surges produced for the tests have a sufficiently high rate of change to be equivalent to the stresses caused by lightning, switching, or other circuit transients.

How the Tester Works

The tester consists of a repeating type, surge-voltage generator, a cathode-ray oscilloscope, and synchronously driven switching equipment—all of which are enclosed in one cabinet. The generator produces a rapid succession of voltage surges (60 per



Here the electronic winding-insulation tester is being used in the final testing of a large rewound and reconditioned motor. The tester operates on the comparison principle. A steep wave front surge is applied to two similar sections of the winding periodically. Faults such as shorted turns, shorted coils, grounds, reversed phases, reversed coils, etc., are shown quickly by characteristic wave patterns on the oscilloscope.



Principal elements of the winding insulation tester are the repeating surge generator (bottom, left), a cathode-ray oscillograph (top, right), the time-co-ordinating and beam time-axis circuit (top, left), and a synchronous reversing switch (bottom, right), together with a typical wye-connected winding of a rotating machine. The surge generator consists of a supply transformer, No. 10; charging tube, No. 11; main capacitor, No. 6 and discharge resistance and tube, Nos. 7 and 5. This circuit provides a capacitor-discharge voltage wave which is applied through a synchronously operated reversing switch, No. 9, to the machine windings, Nos. 12 and 13, under test. Time-co-ordinating circuit, Nos. 1, 2, 3, and 4, supplies time-axis voltage for the cathode-ray oscilloscope and operates the surge generator once for each cycle of power-supply frequency, which results in a stationary image of the fault-indicating wave on the oscillograph screen.

second when used with 60-cycle power) of controlled shape and easily adjusted to the desired value.

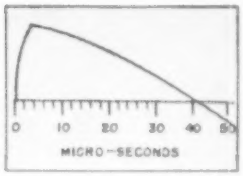
The high voltage surge is produced by the discharge of the capacitor through a thyratron tube. The surge has a steep wave front, in order to put a high turn-to-turn stress on the insulation being tested, and to subject the windings to stresses like those encountered under actual operating conditions.

The generated surge voltage goes through a synchronously driven reversing switch to the machine under test. The reversing switch acts to send alternate surges in opposite directions through the test windings.

The sweep of the cathode-ray oscilloscope is adjusted to give a stationary image of the repeating surge on a screen. If the winding is symmetrical—that is, if there is no fault—the waves shown on the screen will be the same for either direction of surge travel. Therefore, a single wave will be seen. However, if this symmetry is disturbed by anything, such as a ground, shorted turns, incorrect connections, or wrong number of turns, the waves for the two directions of surge travel will differ, and two waves of different shapes will appear on the screen. The experienced operator will be able to tell the nature of the defect by the degree of divergence and the relative shapes and amplitudes of the two wave shapes.

Comparison Principle

The tester, which operates on the principle of balance and com-



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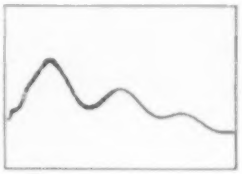

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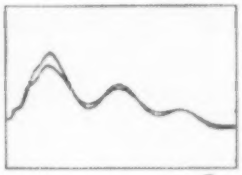

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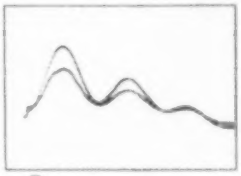

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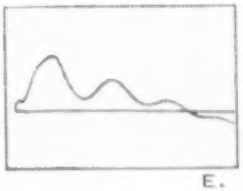

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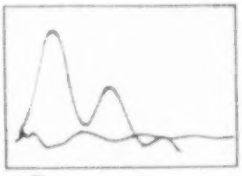

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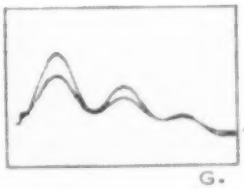


G.

The oscillograms at the right show how the indications of the oscilloscope may be interpreted in terms of motor winding faults. (A) Shape of the surge wave applied to the motor winding. (B) Typical test result when no fault is present. Note that two waves coincide. (C) Appearance when one turn of winding is shorted. (D) One coil shorted. (E) Grounded winding. (F) Reversed phase. (G) Reversed coil.

Method of using test equipment in a shop where a large number of small motors are tested. Interlocks require that guard screen door be closed before high voltage surge can be applied.

parison, compares windings in any two phases at one time. By means of a four-position, hand-operated selector switch, any two phases of a three-phase motor (1-3, 2-3, 1-2) can be connected to the surge generator, and the remaining phase is connected to the oscilloscope. Turning the switch to each of three positions gives a complete motor test; the fourth position gives a picture of the wave shape applied to the windings.

During the test of a three-phase motor, the test leads are connected to two motor terminals, and the vertical deflection plate of the cathode-ray oscilloscope is connected to the third terminal.

Sensitive Method

If a short or ground exists in any winding, the reactance will be reduced, and consequently, the potential across the faulty phase will be reduced. This will cause the potential at the neutral to be changed. The change will be an increase for one direction of surge travel and a decrease for the other direction, and will be indicated by the appearance of two waves of differing amplitude and shape on the oscilloscope screen. When a single short-circuited turn—the least possible fault—is detected in a 110-volt, 1-hp, 1800-rpm windings, the two waves differ by about 10 per cent.

An open circuit in any type of winding (i.e., one- or two-circuit wye or delta) will produce definitely unbalanced waves in at least two positions of the phase-selector switch. The third position may or may not show unbalance, depending upon the location of the fault and the type of winding.

Single-phase Testing

A special tester is built for testing single-phase motors. It differs from the three-phase one only in having a five point instead of a four point selector switch and six output bushings instead of three. A standard motor is connected to three of the bushings and the test motor to the other three. By moving the selector switch through four of its positions, the running and starting windings of the two motors are compared with the surge applied in both directions to the windings. On the fifth position the applied surge is shown.

External connections are made to the three porcelain bushings located on the side of the case. The interlocked door of the safety test enclosure is then closed.

The filament switch is turned on and the tubes are allowed five minutes to warm up. The cathode-ray oscilloscope switch is then turned on. The surge setting is determined, consideration being given to motor voltage, size and age. Surge voltages from 0 to 10,000 volts are available in steps of 200 volts.

Dc Machine Testing

The commonly used bar-to-bar insulation test on direct-current machines can also be made with the electronic winding-insulation tester. In this test, a section of the armature winding, including some ten or twelve commutator bars, is check at one time. Progressive tests are made by turning the armature one bar at a time. The test leads are connected to the bars at the end of this section, and the oscilloscope lead is connected to the two central bars, which are connected together.

If there are no faults in the armature, a single wave will appear on the oscilloscope screen for each group of bars. A double wave indicates an insulation fault. The fault can then be located by rotating the armature to a point where the fault passes under the position where two bars are shorted. If the fault is a shorted coil, the symmetry is restored and a single wave is again shown. If the fault is a ground, it is indicated by minimum deflection at this point.

Reading the Oscilloscope

With experience the operator will learn quickly to diagnose the faults that may be uncovered through the use of this tester. Typical patterns of the wave shapes resulting from certain types of faults are shown in one of the accompanying illustrations. This also shows the surge wave shape (A) that is applied to the terminals of the winding under test and the appearance of the wave shapes (B) when no faults exist.

An electronic type of watt-hour meter calibrator described at a recent AIEE meeting permits such meters to be calibrated with an accuracy of 0.1 per cent. The tester is designed for portable use.

Contractors Meet

◆ How to improve the electrical contractor - jobber relationship was outlined during a convention of the eight-state District 3 (Southeastern), National Electrical Contractors Association, and the Tennessee Electrical Contractors Association. The convention was held at Gatlinburg, Tenn., in the Great Smoky Mountains, on May 15 and 16.

K. D. White, of White Electrical Construction Co., Atlanta, presented a proposal of practical electrical contractor and jobber operations which, he said, had been prepared by someone in his chapter and was suggested for distribution to all the chapters.

The functions of the contractor and of the jobber were detailed and then suggestions were made for improving this relationship.

Jobber-Contractor Relations

1. The jobber should not solicit business from, sell, or render any take-off or estimating services to parties not technically and or legally qualified to make installations. If doubtful sales are made, it certainly should not include any technical assistance. In any event the contractor buyer should receive the lowest price and or the maximum discount by reason of his qualifications and the volume of contractor purchases.

2. The jobber should not solicit or perform any estimating or take-off services for anyone.

3. The jobber should not finance or extend undue credit to contractors. They should not act as agents or go-betweens or otherwise assist in financing any electrical contractor.

4. The jobber must control the activities of his suppliers and their representatives to avoid any by-passing of contractor's services. This applies particularly to manufacturing agents promoting direct-to-customer sales, their allowance of undue discounts to favored persons, etc.

"It is not the function of the electrical contractor to police jobber activities, to force jobber cooperation, nor set up penalties to insure jobber compliance with good practices. However, each individual contractor must be diligent in protecting his customers and his business. He is not obligated to deal with any jobber who functions as his competitor in soliciting business from his customers, thus depriving the customer of essential services and the contractor of work," Mr. White said.

Along the same line were remarks and data prepared by J. A. Scheffer, of the Nashville chapter, gathered with the assistance of the chapter. They were commented on in a general way, but delegates were told that details were available in a few copies which had been brought along for those asking for them.

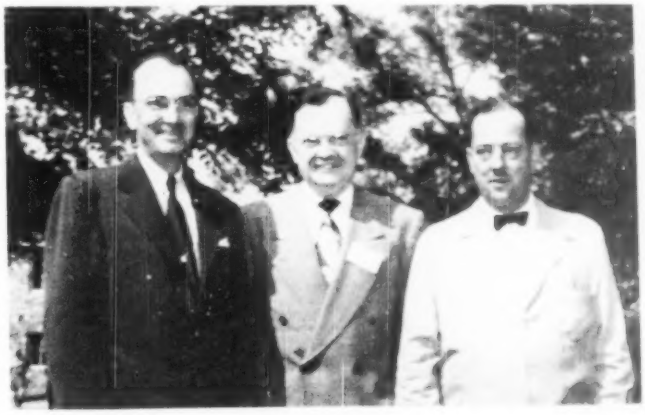
In Nashville, the chapter had given a dinner for wholesalers. Mr. Scheffer had explained at the dinner that it was arranged "to convince one another that we were friends."

Wholesalers had been invited to bring their problems to the Nashville chapter's office, and later "one by one the managers of the various wholesalers laid their problems before me," said Mr. Scheffer. "Where the problems involved unethical practices by our contractors, they were taken up at our meetings in a general way and most of them were stopped.

Getting Back Fixture Business

"These discussions with the individual wholesalers disclosed many angles that needed development, and we decided to concentrate on the selling of commercial lighting fixtures. Selling a lighting job today usually ends up with the customer supplying the fixtures which he has purchased direct from the wholesaler. If the contractor could add this fixture volume to his sales, it would decrease the percentage of his job overhead and increase his profit." Mr. Scheffer has found that "all factors concerned in the ultimate sale are willing to cooperate to the end that a contractor receive a profit for the functions that he performs."

During the convention, District 3 chapter managers also organized, electing Dwight L. Casey of



Among leaders at the eight-state Southeastern electrical contractors convention at Gatlinburg, Tenn., were these three: left to right, D. B. Clayton, Birmingham, vice-president of District 3, who presided; Clint Harder, Washington, secretary-treasurer, National Electrical Contractors Association; and Gardner Hoffman, Knoxville, chairman of the convention committee.

Southeastern electrical contractors applauded when the district apprenticeship award was presented to C. F. Ziegler, Atlanta, at center of stage. Mr. Ziegler works for Wallace Electric Co., Atlanta. He was introduced by J. D. Ness, at left, of the Eckardt-Ness Electric Co., Atlanta. Congratulating Mr. Ziegler at right is D. B. Clayton, Birmingham, district vice-president of NECA, who presided.

the Carolinas' Chapter as chairman and Mr. Scheffer of the Nashville Chapter (all Middle Tennessee) as secretary.

The Tennessee association elected Dannney Deadrick, of Deadrick Electric Co., Nashville, as president, succeeding R. Mitchell Murphy, of Murphy Electric Co., Knoxville. Others elected: first vice-president, Charles Dennis, Memphis; second vice-president, Herbert Haile, Chattanooga; third vice-president, Jack White, Knoxville; secretary-treasurer, re-elected, Phillip Sweet, Chattanooga.

In the regional convention were electrical contractors from Georgia, Florida, North Carolina, South Carolina, Alabama, Mississippi, Virginia, and Tennessee.

D. B. Clayton, of Birmingham, vice-president for District 3, presided over the Southeastern convention, which was held in the modern new Graystone Playhouse, at Gatlinburg. Mr. Clayton continues as district vice-president and there was no election by the regional group.

Presentation of the district apprenticeship award to the apprentice selected as outstanding was among events applauded at the convention. A medal, scroll, and chance to compete for a national award went to a 25-year-old Atlantan, C. F. Ziegler, who is with Wallace Electric Co., Atlanta. Mr. Ziegler's recognition was strengthened by the fact that he also manages to find time to attend Georgia Tech. He is married, has a son, and is in his fourth year in electrical work.

Mr. Ziegler was introduced by J. D. Ness, of Eckardt-Ness Electric Co., Atlanta, who is a director of the Atlanta chapter. Presentation of the award was by Davis S. Elliott, Roanoke, Va., member of the national committee.

The welcome to the electrical contractors was given by W. Gardner Hoffman, president of Tennessee Armature & Electric Co., Knoxville, who was chairman of the convention committee.

Edward J. Vanderlinde of Rochester, N. Y., president of the national association, and Mr. Clay-

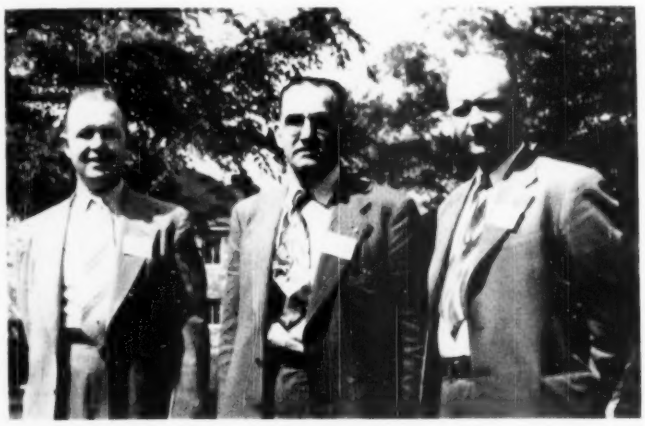
(*Continued on page 56*)

News of the IAEI

IAEI Headquarters Staff Expanded

◆ THE APPOINTMENT of Robert A. Peterson of the International Association of Electrical Inspectors as technical assistant secretary to the International secretary-treasurer of the Association was announced recently.

Mr. Peterson has had wide and varied experience in the electrical industry having been employed by the Snyder Tool and Engineering Company for a period of seven years in maintenance, construction and installation of electrical machines and tools. For two years, he was electrical field service man for this company, servicing machines supplied to automobile and



Knoxvillians helped to arrange a banquet, picnic, luncheon, and other events for the District 3 and the Tennessee convention at Gatlinburg. They included these three leaders: left to right, J. W. D. Ward, a state vice-president last year; R. Mitchell Murphy, outgoing state president; Jack White, executive committeeman, who is new third vice-president.

aircraft industries.

Mr. Peterson later was employed by several electrical contractors in and around Detroit, Michigan, doing electrical construction in industrial plants.

During the War, he served with the U. S. Navy as a radio technician and later as an instructor, training naval personnel in radar and sonar installations in the advanced phases of the training program. He received training in various Naval Schools at Great Lakes, Texas A & M University and Navy Pier at Chicago.

After honorable discharge from the Navy, Mr. Peterson entered the service of the City of Detroit as an electrical inspector for the Department of Buildings and Safety Engineering. Successfully competing in a civil service examination, he was advanced to the position of assistant electrical engineer. This position he has filled for approximately two years.

During Mr. Peterson's service with the Electrical Inspection Bureau of Detroit, he supervised the activities of the field inspectors, specializing in industrial and large commercial installations.

IAEI Announces New Class Membership

◆ MUNICIPALITIES and other government bodies may now participate in the International Association of Electrical Inspectors through direct membership. A new class of sustaining membership, designed as Type F, has been adopted. It is open to city, county, municipal, provincial or state governments interested in the objectives of the Association.

Holders of these memberships may designate one representative, a chief electrical inspector or individual charged with such duties, who will be entitled to all the privileges of Active members in the Section and Chapter in which such memberships are located geographically without additional fees or annual dues.

The annual dues of the Type F members will depend upon the population served by the governmental unit: 0 to 50,000, annual dues $10; 50,000 to 300,000, $25; 300,000 to 500,000, $35; and over 500,000, $50.

NAMES IN THE NEWS

The appointment of **Jim Hennessy** as supervisor of distributor sales has just been announced by **Eric DeMarsh**, sales manager, **Burndy Engineering Company**, New York City.

He has been associated with the company for 12 years, having spent a majority of this time both in field and sales engineering work to industrial and electrical contractor customers.

He has just returned from the Carolinas and Georgia, where he has been assisting Burndy stocking distributors with stock, sales training, and promotion problems relating to their line of Burndy electrical connectors.

•

George W. Alexander has been named as purchasing agent for **Mississippi Power & Light Company** to succeed the late **Henry Tupper Drane**, it was announced recently by **Ray W. Braswell**, general superintendent of Mississippi Power & Light Company, Jackson.

George W. Alexander

A native of Lexington, Miss., Mr. Alexander received his education in the public schools of that city, and studied at Mississippi State College.

Mr. Alexander has been connected with the company since December, 1927, and was appointed buyer in 1945, a position which he filled until his recent promotion to purchasing agent.

•

J. T. Isbell, vice-president in charge of sales of the **A. B. Chance Co.**, Centralia, Mo., has announced the appointment of **L. C. Hansen** as sales manager. The appointment became effective April 1.

Mr. Hansen joined the Chance Company three years ago as a sales engineer, and successively has held the positions of assistant to the sales manager and manager of anchor sales. Earlier, he had been associated with the General Electric Company for six years.

Mr. Isbell also announced the appointment of **R. W. Kunkle**, formerly Pittsburgh district sales manager, to succeed Mr. Hansen as manager of anchor sales. Mr. Kunkle joined the company in 1948 as a sales engineer. Formerly he had been with the General Electric Co.

•

The southern portion of the sales territory served by the St. Louis electrical division branch of **Wagner Electric Corporation** was set up as a separate unit, with headquarters in Memphis

A. C. Allen

and a sales office in New Orleans, on April 1, 1950. **A. C. Allen** will remain at Memphis as branch manager of the newly established territory.

The remaining territory, with a main branch in St. Louis and a sub-branch in Indianapolis, will be under the di-

J. J. Scheid

rection of **J. J. Scheid**, who succeeds **H. N. Felton** as manager of the St. Louis branch. Mr. Felton was recently elected vice-president in charge of sales of the Wagner company.

The objective of this division is to provide the best possible service to buyers of Wagner electrical apparatus in all parts of the areas affected.

•

Appointment of **W. E. Haynes**, Dallas District operating manager for the **Graybar Electric Company**, has been announced by **A. H. Nicoll**, company president.

In his new position, Mr. Haynes will be responsible for the service, accounting, and warehousing functions in the Dallas house as well as at the other Texas branches of San Antonio, Ft. Worth, Amarillo, and Austin, and at the Shreveport, La., branch house.

A native of Tacoma, Wash., he joined Graybar in that city in 1937 as a warehouseman. Four years later, he went to Seattle as office salesman and in 1946 became head office salesman of the Seattle house. In 1948, he became district head office salesman and in 1949, district training supervisor.

Mr. Haynes is a graduate in business administration from the College of Puget Sound and has a Master's degree in retailing from New York University. He succeeds **N. M. White**, who was appointed district operating manager at Philadelphia.

•

Announcement has been made of the appointment of **Francis K. Godwin** as director of residential sales of the **Virginia Electric and Power Company**. Mr. Godwin is a former president of the East Coast Electric Company, recently purchased by VEPCO, and succeeds **E. T. Moore**, who resigned late in 1949 to become vice-president and general manager of Commonwealth Sales Corporation.

•

The appointment of **Lewis M. Russell** as advertising and sales promotion manager of the **Mitchell Manufacturing Company**, Chicago, is announced by **Bernard A. Mitchell**, president. Mr. Russell will handle the promotion of Mitchell's lighting fixture, room air conditioner, and radio specialty divisions as well as their new television line.

Formerly advertising manager of the Culligan Zeolite Company, Northbrook, Illinois, Mr. Russell spent many years as director of advertising and sales promotion for Hotpoint's refrigerator and home laundry equipment divisions.

Electric Sales Company, Kansas City, Mo., headed by **Mike Clagett** and **Bud Smith**, was recently appointed sales representative for **General Switch Corp.**, Brooklyn 11, N. Y.

Electric Sales will carry a warehouse stock of General safety switches, service entrance equipment, and branch circuit panels at 407 Broadway, Kansas City 6, Mo., and service electrical wholesalers in the area of western Missouri, northeastern Oklahoma, southwestern Iowa, and the states of Kansas and Nebraska.

In addition to the General Switch line, Electric Sales Company handles Powerlite switching gear; Royal Electric Company's switching gear for power distribution; The Auth Electric Company's signaling devices; Lew Electric Fitting Company's equipment for floor boxes, pipe benders, etc.; and Trine push buttons.

•

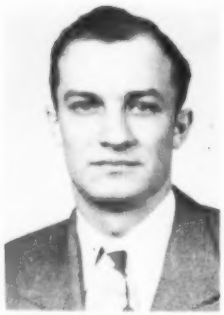
Charles S. Hammond, assistant to the president of the **Georgia Power Company**, died May 19 in Daytona Beach, where he was attending a business meeting. Mr. Hammond was a native of Atlanta, and attended Atlanta and Savannah schools. He was graduated from Georgia Tech in 1913 as an electrical engineer.

He joined the sales department of the Georgia Power Co. in 1915, entered the first officers training camp at Ft. McPherson in 1917, and saw service overseas as an officer in World War I. He remained with the U. S. Engineers until 1923, when he returned to the power company as assistant to the sales manager. He held that position until 1949, when he became assistant to the president.

•

E. H. Elsberry has been appointed warehouse manager of the **L. Morris Landers Co.**, 624 Spring St., N. W., Atlanta 3, Ga.

Mr. Elsberry's duties will include acting as service manager, listing and expediting orders, maintaining stock control, and other functions that pertain to warehousing.



E. H. Elsberry

Mr. Elsberry has been in the electrical business 11 years, and has traveled the Southeast, calling on the electrical trade. He has also had considerable experience working with an electrical jobber.

•

Charles M. Furman, Jr., & Associates, manufacturers' representatives, 1228 Harding Pl., Charlotte 3, N. C., have recently been appointed southeastern representatives for Abrams Lighting, Philadelphia, Pa.

Charles M. Furman, Jr., is president and **Dorothy M. Furman** secretary-treasurer of the firm, which will cover the states of North and South Carolina, Georgia, Florida, Virginia, and Tennessee.

DISTRIBUTOR AID—Cary Chapman, of Fulwiler & Chapman, 702 Whitehall St., S. W., Atlanta, is shown looking over a new Federal Electric Products Company display board which his organization has for use at distributor meetings. Shown on the board are a number of new and improved products which are included in a new Federal bulletin, "Add to Your Profits with 10 New Sales Builders."

Cut Cost

...IN THE PLANNING STAGE--

Specify SIMPLEX-ANHYDROPRENE CABLES

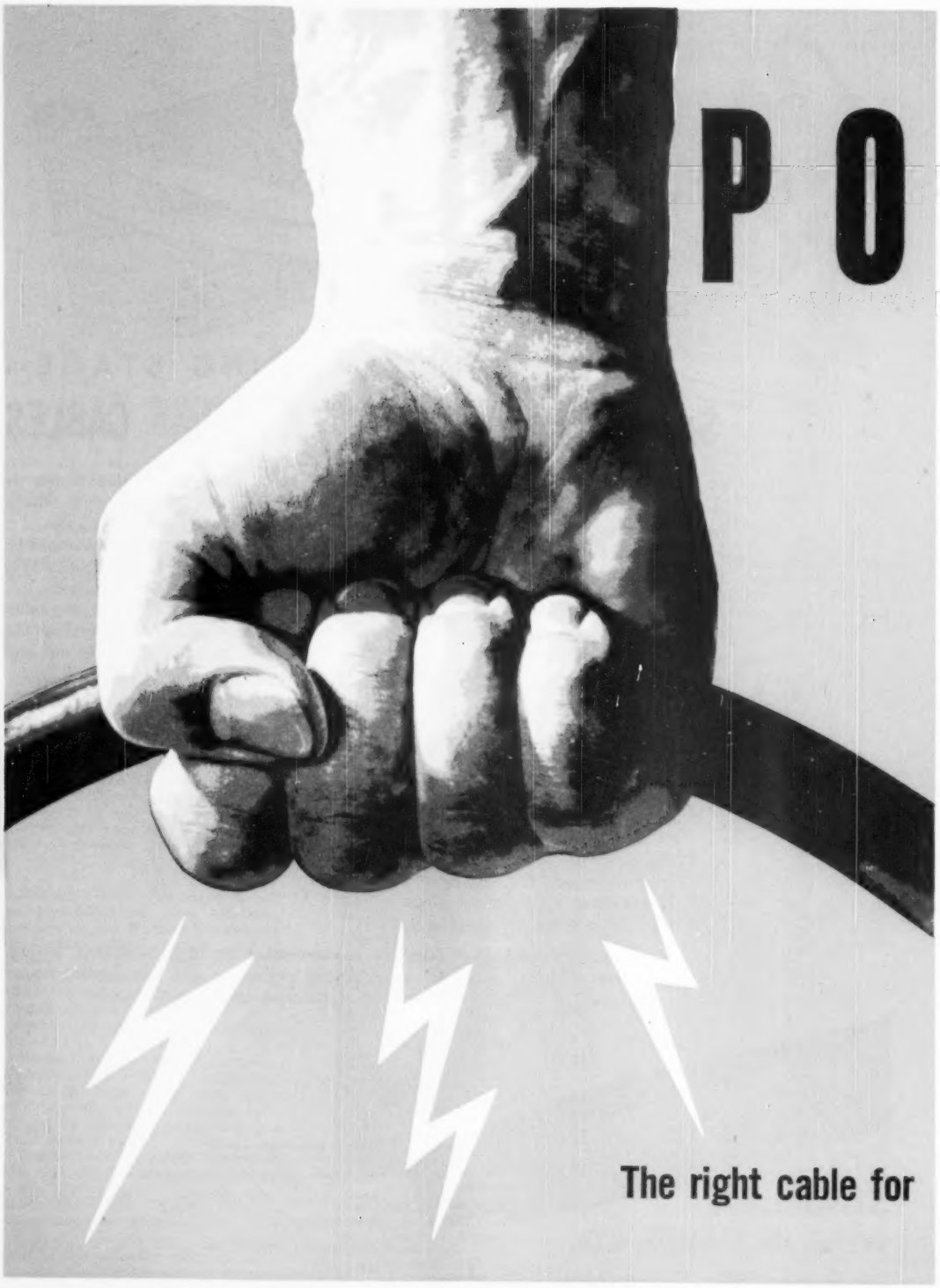
When planning transmission and distribution systems for installation in conduit, in underground ducts, or in open air raceways in buildings, you'll take a big step toward low-cost operation by specifying Simplex-Anhydroprene Cables. . . . Their simple construction, stable electrical and physical properties, and versatility provide many advantages profitably realized in low purchase cost, low installation and maintenance costs and long service life. . . . Some of these cost-cutters are included in the checklist below. But even they are only a few of many available to you when you install Anhydroprene Cables. For the complete Anhydroprene story, plus specification data, drop us a card today for Bulletin 115. (Fill out and mail the coupon below.)

- Light Weight
- Small Diameter
- No Braids to Rot
- Flexibility at Low Temperatures
- Abrasion Resistance
- Low Water Absorption
- Protection against Oils, Heat, Sunlight and Flame
- Resistance to Acids, Alkalies and Corrosive Chemicals
- Easy Jointing and Tapping
- Elimination of Duct Lubricants
- No Potheads Needed at Terminations

Simplex-Anhydroprene Cables are recommended for plant and shop wiring, for instrument wiring, for use as underground primaries and secondaries, transformer leads and pole line risers, and in signal and control circuits.

SIMPLEX WIRE & CABLE CO.
79 SIDNEY ST., CAMBRIDGE 39, MASS.
GENTLEMEN: PLEASE SEND BULLETIN 115 TO
NAME _____ TITLE _____
FIRM _____
STREET _____
CITY _____ STATE _____

SIMPLEX
WIRE & CABLE CO.
79 Sidney St., Cambridge 39, Mass.


PO
The right cable for

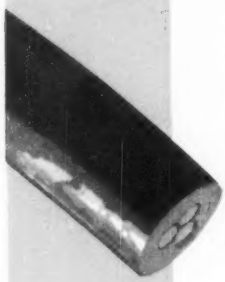
WER UP

and be prepared!

THAT'S THE CHALLENGE to 9 out of 10 industrial plants—and yours may be one! It's the challenge to prepare those plants to make full use of electric power by modernizing obsolete, worn out wiring systems, by providing adequate wiring capacity *now* and for the *future*.

POWER UP—And Be Prepared! is Anaconda's new Industrial Wiring Modernization Campaign to help industry make full, efficient use of the electric power it buys . . . to eliminate costly power waste caused by overloaded circuits, worn out electrical equipment, inefficient distribution and failure to provide for added power loads.

LIKE ANACONDA'S previous industry-wide campaigns, "Industrial Modernization," "Preventive Maintenance" and "Wire Ahead," this newest Anaconda program is designed to enlist the engineering knowledge and skills of Electric Utilities, Contractors and Wholesalers in helping American industry to POWER UP—And Be Prepared!
Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.



the job ANACONDA® Wire and Cable

INDUSTRY NEWS

Timely items relating to contractors, light and power companies, electrical wholesalers, electrical manufacturers and their agents.

Wilson to Open NAED Convention Program

◆ THE OPENING ADDRESS by Charles E. Wilson, president, General Electric Co., at the Apparatus and Supply Division meeting on June 12, will begin the week-long 42nd Annual Convention of the National Association of Electrical Distributors.

In making this announcement, Charles G. Pyle, managing director of NAED, stated that this year's convention will probably draw a record attendance of more than 2,300 members and guests. Meetings will be held at the Convention Hall at Atlantic City.

Dr. Edward F. Willett, Dept. of Economics, Smith College, will address an Apparatus and Supply Division Session on June 13 on "Private Enterprise at the Crossroads," and Joseph B. Elliott, vice-president in charge of RCA Victor consumer products, will speak on "The New Radio-Television Distribution Patterns" at an Appliance Division meeting on June 15. On the following day, W. E. O'Brien, general sales manager, McGraw Electric Co., Toastmaster Products Division, will talk on electric housewares.

The convention will also hear Arthur H. (Red) Motley, publisher, *Parade Publication, Inc.*, whose subject will be "Nothing Happens Until Somebody Sells Something"; Robert Edwards, president, Edwards & Co., N. J.; MacDonald, vice-president, Thomas & Betts Co.; and George P. F. Smith, president, Norge Division, Borg-Warner Corp.

Special features will be a presentation of the latest and most effective methods of lighting staged under the sponsorship of the Industrial and Commercial Lighting Section of NEMA.

Contractor's Part In A-W Promotion

◆ THE HOWS AND WHYS of electrical contractor participation in adequate wiring promotion are detailed in a new booklet produced by the National Adequate Wiring Bureau. The 8-page piece contains information on how contractors can profit by tying-in with local programs. Down-to-earth sales suggestions are given on how to sell more complete jobs. Also described are the various materials available from the National Bureau.

The text is informal and conversational. Humorous spot drawings illustrate the copy throughout. Questions, frequently asked by contractors, are answered with practical reasons for selling AW. And tips are given on how to go about it.

The booklet starts off with two typical wiring layouts. One for a home in a community where there has been no promotion of adequate wiring. The other for a home which has been certified for adequacy. A bill of materials for each illustration is given. Needless to say, the certified job has many more outlets and circuits, a much larger service.

In order to get this kind of business, contractors are urged to:

Provide a layout based on the AW standards when called in on a job;

Explain the advantages of adequate wiring by stressing its provisions for greater convenience, efficiency, comfort and safety;

Mail sales literature to home owners, architects and home builders.

Advertise in local newspapers;

Display the AW emblem on trucks and in store windows.

HOUSTON GETS LIGHTING AWARD—The first of the Planned Lighting Awards, the Combined Award, consisting of an engraved bronze plaque and $500, was presented to the Houston Lighting & Power Co., Houston, Texas, at the 16th annual EEI Sales Conference. The award was for outstanding accomplishments in lighting education and sales promotion in the residential, commercial, and industrial markets during 1949. Frank M. Austin, center, accepts the award from Harry Restofski, chairman, Commercial Division General Committee, EEI, while G. E. Whitwell, left, chairman of the EEI Prize Awards Committee, looks on.

Monitor

The Original "JUST PRESS A BUTTON" System

THE ONLY

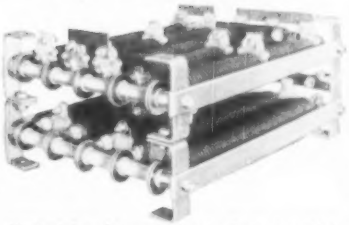
CONTROLLERS NOT AFFECTED BY TEMPERATURE VARIATIONS

. . . A COMPLETE LINE of MOTOR CONTROLS

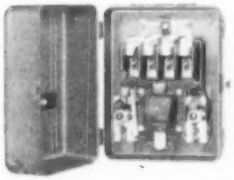
Available for immediate delivery

You can obtain the finest in motor controls. Large stocks of MONITOR Controls are available in three of the South and Southwest's important trading areas. Whether your requirements call for automatic controls to perform the usual or the unusual under exacting circumstances — you'll find a speedy solution at your nearest MONITOR Distributor!

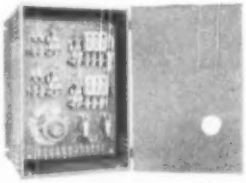
Industrial plants require the best in motor control equipment if peak production is to be maintained. This huge control job facilitates the control of many pumps and compressors in the plant of the Worcester Salt Company.



Standard Type Edgewound Resistor Banks Assembled for Use With Drum Switches



Thermaload V. Magnetic Motor Starters with Thermal Overload Protection for Across-the-Line Starting — Size 0 and Size 1



Manual Speed Regulators and Field Rheostats

REPRESENTED BY

L. L. ROUSSEL
312 E. LIVINGSTON PL.
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LYNN ELLIOTT CO.
322 M & M BUILDING
HOUSTON 2, TEXAS

The
MONITOR CONTROLLER CO.

51-55 HAYWARD ST. Tel. BRaintree 2-1430 BRAINTREE 84, MASS.

PIONEERS IN MOTOR CONTROLS SINCE 1888

The booklet then explains the material available from the National Adequate Wiring Bureau to help contractors sell more complete systems. Readers are urged to write for samples of the items available.

The piece is intended for distribution by power suppliers, leagues, AW bureaus, contractor groups, wholesalers and others. A special two-page insert is available at nominal cost to certification bureaus. It describes the services offered by local bureaus. It also tells how contractors can work with them for the benefit of all.

Higgins Retires, Gilman Heads FPC

◆ THE BOARD of Directors of Florida Power Corporation, St. Petersburg, has elected William C. Gilman as president and director of the utility, effective June 1, 1950.

Mr. Gilman succeeds A. W. Higgins, who has been president of FPC since 1937. Mr. Higgins, who celebrated his 70th birthday on May 31, asked the Board of Directors to relieve him of his responsibilities on that date.

Mr. Gilman, who is 53 years of age, comes into the presidency of the Florida electric utility with a background of public utility and investment experience. He graduated with a Bachelor of Science degree from Massachusetts Institute of Technology in 1922, and the following year received a Master's Degree from the same University. Before World War I, in which he served 5 years, he also attended McGill University in Montreal, Canada.

After graduation from MIT, Mr. Gilman was associated with the General Electric Company, Central Hudson Gas and Electric Company, and the Carolina Power and Light Company. In 1928 he was head of the utility investment department of the Equitable Life Assurance Society, New York, where he gained intimate knowledge of many of the large utilities in the country.

In 1935 he became director of the public utility division of the Securities and Exchange Commission in direct charge of carrying out the work involved under the Holding Company Act created by Congress.

W. C. Gilman

Mr. Gilman established W. C. Gilman and Company in 1937, a consulting engineering firm with offices in New York City. His organization has been retained by large utilities, insurance companies and investment bankers. During the past 10 years he has worked in the Florida Power Corporation properties and thus has become well acquainted with the company and the territory it serves.

Fan Association Releases New Ventilation Guide

◆ THE NEW "Industrial Ventilation Guide" is now available from the Propeller Fan Manufacturers' Association, according to a recent report from the Association.

The Guide provides a concise yet thoroughly informative coverage of general industrial ventilation problems and their economical solutions.

Some of the important headings within the Guide are "Types of Ventilation," "System Pressure," "Recommended Air Changes," "Duct Resistance Chart," and "Calculation of Resistance." Certified rating tables are provided by leading manufacturers of industrial ventilation equipment for the further guidance of those solving industrial ventilation problems. The Guide covers the points to be taken into consideration on average industrial problems.

This Guide will prove of interest to anyone in the industrial field who wishes information on how to solve a particular ventilation problem. Helpful information is available for architects and engineers. The Guide is available upon writing to the Propeller Fan Manufacturers' Association, 2159 Guardian Bldg., Detroit 26, Mich.

Anaconda Launches Rewiring Campaign

◆ AS A RESULT of an industry-wide survey, which showed that nine out of ten industrial wiring plant systems are obsolete and inadequate, the Anaconda Wire and Cable Company has announced plans to launch a nationwide industrial rewiring campaign.

Directed to all industrial users of electrical power, the program, which began in May, will enlist the co-operation of electrical contractors, plant maintenance personnel, electric utilities, and wholesalers. All industry will be urged to survey the condition of its power wiring systems with the view to modernizing them and providing full adequate distribution capacity for present and future needs.

The campaign will emphasize its objective with the slogan

A new electrical wiring maintenance manual, entitled "Power Up — and Be Prepared," is available from the Anaconda Wire and Cable Company in connection with their nationwide industrial rewiring campaign. The guide will be most suitable for electrical contractors and plant maintenance staffs in making surveys.

PLUGIN FA BUSDUCT

YOUR ELECTRICAL DOLLARS WILL GO MUCH FARTHER with Plugin FA Busduct . . . because here's an electrical distribution system designed to economize on everything but efficiency.

By providing convenient plug-in outlets every foot of the way, there's always a ready power source for new or present equipment anywhere along the production line . . . just plug-in wherever you want . . . no slowing down production to make needed changes . . . no expensive wiring delays . . . no high cost electrical maintenance . . . in fact, there's nothing much to do but *plug-in and let 'er roll.*

Add up these and many more cost-cutting features of Plugin FA Busduct . . . and you'll agree that here is the electrical distribution system that makes ends meet in more ways than one.

FA POWER PLUGIN, the new midget-size Plugin FA Busduct of 50-amp. feeder capacity, is now available for equipment requiring connections for $\frac{1}{2}$ to 8 HP motors, 240 volts or less, AC or DC (7$\frac{1}{2}$ HP maximum, with dual-element fuses).

Featuring all the convenience, flexibility and economy of Plugin FA Busduct, this new Underwriter Laboratories approved duct is made in 5-ft. and 10-ft. sections with plug-in outlets every 20 inches . . . additional outlets and special lengths available on special order.

For more information about Plugin FA Busduct and FA Power Plugin, write for Bulletins 701 and 705 . . . or talk to your FA Representative (he's listed in Sweet's).

Frank Adam Electric Co.

ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

"Just when do I use

It isn't easy to decide what type of insulation to specify for electrical wire and cable. But the job will be a lot easier if you use the experimental and practical knowledge of American Steel & Wire Company engineers. These engineers know that varnished cambric insulation has a combination of properties that are unmatched by any other one insulation.

To start with, varnished cambric is superior to rubber when it comes to heat resistance and load capacity—it can be used at operating temperatures up to 85°C. And, because of its higher dielectric strength, varnished cambric insulation walls can be thinner than rubber. But unlike rubber, varnished cambric requires a waterproof covering if it is to be continuously exposed to moisture.

Paper insulation is more susceptible to ordinary moisture than varnished cambric. And, although varnished cambric is not as flexible as rubber, it is much easier to handle and simpler to install than paper insulated cables.

Varnished cambric has one big advantage over both natural rubber and paper: It is not affected by oil and grease.

Available Types of American Varnished Cambric Cables

CONDUCTORS:	OUTER COVERINGS:	FINISHES:	ARMOR FINISHES:	LEAD SHEATHINGS:	RUBBER SHEATHINGS:
solid stranded extra flexible annular segmental	cotton braids asbestos braids tape	black wax firefite U R C slowburning	flat steel tape interlocking metal tape steel wire basket weave	plain jute served duck tapes reinforced rubber	where lead cannot be used

Varnished Cambric?"

APPLICATIONS

● Impregnated paper is still the standard insulation for high-voltage operation and general power transmission. And rubber is advisable for most low-voltage installations—or even higher voltages when its moisture resistance and flexibility are particularly valuable.

Varnished cambric follows the middle path, and it is often used in place of rubber or paper because of its properties.

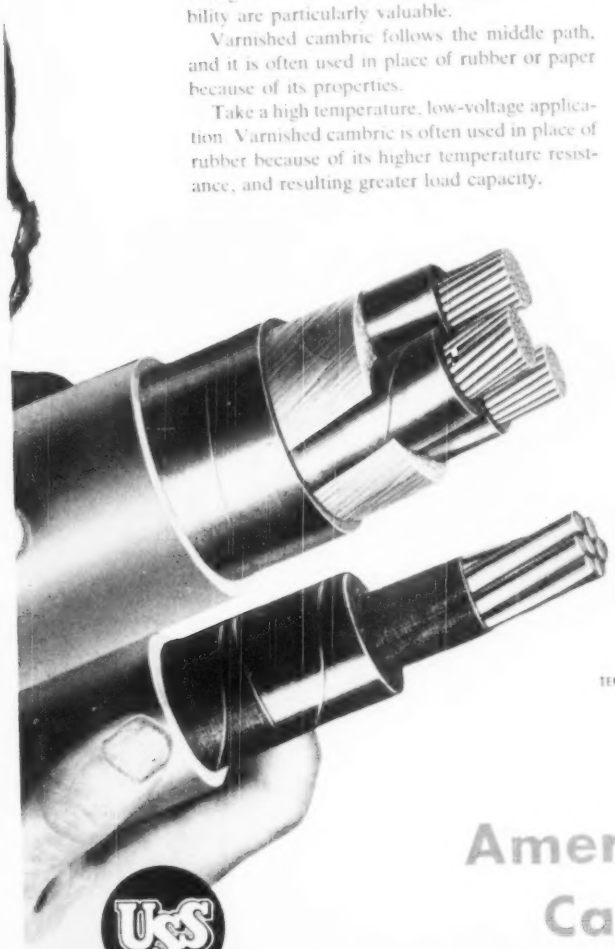
Take a high temperature, low-voltage application. Varnished cambric is often used in place of rubber because of its higher temperature resistance, and resulting greater load capacity.

Varnished cambric is also widely used for medium-voltage (up to 5000 v.) transmission lines because it is so easy to install, terminate and join. It is ideal for dry locations, and it can be used without a lead sheath because it is not subject to oil drainage.

Varnished cambric is preferred for general wiring in power stations. Typical examples are: Generator leads, insulated bus bars between oil switches, distribution transformers, etc. Oil and grease resistance of this insulation also make it useful for motor leads and transformer connections.

Perhaps the most common application of varnished cambric insulated cables and wires is for general power distribution within manufacturing plants . . . especially in heavy industries where large blocks of power are transmitted for short distances. Bridges, and other structures which require aerial cables, are often serviced with varnished cambric cables that have a rubber jacket. Rubber jackets are preferable in these locations because lead would probably be ruined by vibration.

Always remember that our engineers are willing to help you solve any wire or cable problem that you may have. And there is no obligation. Write today for Bulletin No. 6195-A "Varnished Cambric Insulated Wires and Cables."



AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES, CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM, SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

American Varnished Cambric Cables

USS

UNITED STATES STEEL

"Power Up—and Be Prepared." It follows the other highly successful Anaconda rewiring campaigns of previous years, which were known as, "Wire Ahead," "Preventive Maintenance," and "Industrial Modernization."

Some of the factors which plant wiring system surveys are intended to disclose are power waste caused by overheating of overloaded circuits, voltage drop resulting in slow-speed motor operation, poor physical condition of cables and wiring causing or threatening production interruptions, low power factor, and lack of capacity to permit expanding production by adding new equipment.

In urging industry to survey its power distribution circuits, Anaconda engineers claim that the cost of modernizing present, inadequate wiring will be more than offset by savings in power costs. A new electrical wiring maintenance manual, entitled "Power Up—and Be Prepared," is available as a guide for electrical contractors and plant maintenance staffs in making surveys.

DATES AHEAD

National Association of Electrical Distributors, Annual Convention, Convention Hall, Atlantic City, N. J., June 12-16, 1950.

American Institute of Electrical Engineers, Summer General Meeting, Pasadena, Calif., June 12-16, 1950.

***International Home Furnishings Market, The Merchandise Mart, Chicago, Ill., June 19-29, 1950.**

***Merchandise Mart Gift Show, The Merchandise Mart, Chicago, Ill., July 31-August 11, 1950.**

Illuminating Engineering Society, National Technical Conference, Hotel Huntington, Pasadena, Los Angeles, Calif., August 21-25, 1950.

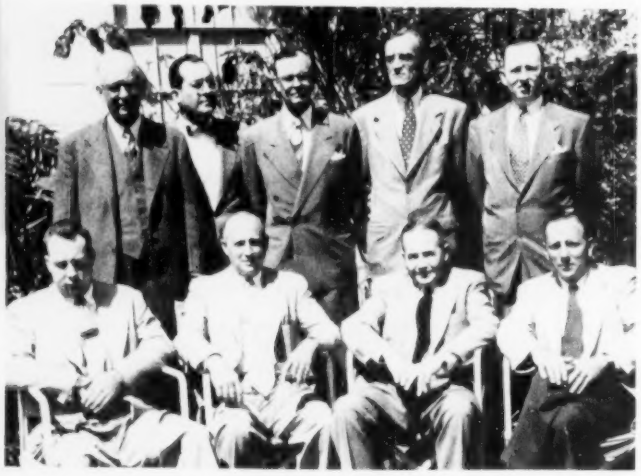
***Third Annual National Television & Electrical Living Show, Chicago Coliseum, Chicago, Ill., Sept. 29 - October 8, 1950.**

Fifteenth Annual Conference, International Association of Electrical Leagues, Copley Plaza Hotel, Boston, Mass., October 11-14, 1950.

Twenty-second Annual Meeting, Southern Section, International Association of Electrical Inspectors, Sheraton Plaza Hotel, Daytona Beach, Fla., October 16-18, 1950.

National Electrical Manufacturers Association, Chalfonte-Haddon Hall, Atlantic City, N. J., November 13-17, 1950.

***Asterisk indicates meetings announced for the first time in this column.**



SIMPLEX SALES CONFERENCE — This group picture of the Southeastern District sales group of Simplex Wire & Cable Co., was made at the conclusion of a sales conference held recently in Tampa, Fla. Left to right, front row, are B. H. McCrackin, Jr., who covers part of Alabama for Simplex; G. L. Roberts, vice-president in charge of sales, who directed the conference; A. K. Felix, Southeastern District Manager; and H. G. Wilson, who covers the Florida territory. Standing, left to right, are W. H. Beaven, Simplex sales representative in Birmingham; W. W. Lancaster, who covers Louisiana, Mississippi, Arkansas, and part of Tennessee; R. H. Morrison, associated with Mr. Beaven; G. J. Crowdes, chief engineer, who discussed recent engineering developments in Simplex products; and J. T. Woodward, who covers part of Virginia and South Carolina, and all of North Carolina.

TVPPA Sponsors Electric Caravan

◆ A MILLION-DOLLAR electric caravan, sponsored by the Tennessee Valley Public Power Association, hit the road last month in dozens of trucks and trailers.

States Finley, general superintendent of the Electric Power Board of Chattanooga and president of TVPPA, announced plans recently for the Home and Farm Electrical Exposition which is sponsored by the Association with the co-operation of power distributors, electrical appliance manufacturers, the Tennessee Valley Authority, agricultural engineers, and appliance dealers in the valley.

The opening show was held May 4, at Sheffield, Ala., and the traveling electric show will play a series of one-night stands throughout the valley sections of Alabama, Tennessee, Virginia, Kentucky, and Mississippi until the closing date, October 28, in Tupelo, Miss.

Residents in and near 51 cities and towns will have an opportunity to see the displays of appliances, equipment, and electric wonders during the tour. The sponsors estimate that as many as 500,000 persons may see the varied electrical exhibits before completion of the season.

George D. Munger, head of TVA's electrical development division, is general manager of the show, and his assistant in charge of arrangements is Sherman Hafley. Co-operating in putting on this show and hopeful of making it an annual event are the 105 distributors of electric power in the valley which are members of the TVPPA. J. Wiley Bowers is executive secretary of the Association.

Wakefield Announces Luminous Ceilings

◆ THE F. W. Wakefield Brass Company, Vermilion, Ohio, has announced the availability this summer of luminous-acoustical ceilings for improved seeing and hearing in classrooms, drafting rooms, offices, and other areas devoted to critical visual tasks.

Peerless-Electric

TYPE HAT HORIZONTAL VENTILATTIC FANS

FOR SPACES WITH
LOW HEADROOM

Horizontal attic fans are the answer to the modern design of low attic spaces prevalent in the ranch type of homes. Peerless Electric Type HAT Horizontal Ventilattic Fans can be installed quickly and economically to exhaust the daytime heat and reduce temperatures 15° to 25° when operated only for a short time. Silently and efficiently they bring in that cool evening air for comfort throughout the home.

FEATURES

MOTORS—Resilient-mounted and sleeve-bearing, with specially designed thrust collar for vertical quiet operation, automatic thermal overload protected, selected for their long hour duty. Designed by "Peerless Electric," a manufacturer of fans and motors since 1893.

QUIET OPERATION—Belt-driven at slow speed, the perfectly balanced heavy-gauge steel blades operate silently and with high efficiencies. Operation costs only a few cents a day. Unit is completely mounted on foam-rubber strips to air seal the irregularities of mounting and provide quiet operation.

FAN BEARINGS — Self-aligning ball-bearing pillow block bearings rigidly support the fan assembly. Bearings are pre-lubricated and equipped with labyrinth steel seals to retain lubricant and to exclude dust and dirt.

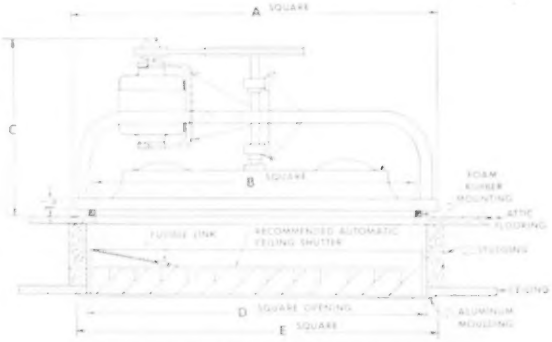
GENERAL CONSTRUCTION — Panel, arms and bearing support assembly completely welded together, heavy adjustable motor support to adjust belt tension, motor pulley variable pitch for changing fan speed, panel with deep venturi for efficient quiet operation — assembly finished in attractive gray Hammerloid baked enamel.

SIZE RECOMMENDATION—Select a Ventilattic Fan that will change the air in the house or space to be ventilated at least once every minute for Southern climates and once each minute-and-a-half in Northern climates to assure maximum cooling effect.

SHUTTERS—Recommended automatic ceiling shutters are sized to provide low inlet air velocities. Equipped with air flow adjustment, fusible link for fire underwriters' requirements and aluminum trim strips to give the whole face of the shutter a beautiful appearance.

RATINGS—In accordance with Propeller Fan Manufacturers' Association and American Society of Heating & Ventilating Engineers.

GUARANTEE — Peerless Electric Fans and Motors are guaranteed against defective workmanship or material for a period of one year from date of shipment from factory. Each unit when shipped is registered and the serial number identifies it immediately for spare parts or duplicates.



FAN PERFORMANCE AND DIMENSIONS

Model	Fan Dia.	Capacity C.F.M.	Capacity C.F.M. 0.1" S.P.	Motor H.P.	High R.P.M. Fan	A	B	C	D	E	Recommended Shutter Size	Shpg. Wgt.
HAT24	24"	4,150	2,470	¼	585	34	30	15¼	31¾	34	31 x 31	96
HAT30	30"	4,900	2,950	¼	520	40	36	15¼	37¾	40	37 x 37	124
HAT36	36"	7,450	4,520	¼	400	46	42	18½	43¾	46	43 x 43	152
HAT36A	36"	8,100	4,950	½	435	46	42	18½	43¾	46	43 x 43	155
HAT42	42"	9,900	6,100	½	365	52	48	19¾	49¾	52	49 x 49	195

Certified Dimension Prints Furnished on Request

THE *Peerless-Electric* COMPANY · WARREN, OHIO

NO. 50A-133

The Wakefield Ceiling, as it will be known, consists of slimline fluorescent lamps suspended from the structural ceiling slab, supported below which, at a distance of about 18 inches, are thin translucent corrugated plastic sheets. Suspended below the plastic sheets are perforated acoustical baffles, trapezoidal in cross section and filled with sound absorbing material.

When reflectivities of wall materials, colors, and furniture are co-ordinated, the ceiling insures a room with low brightness ratios, excellent light diffusion, and efficient sound absorption. The architectural result is quiet and discreet. Concealment of pipes and ducts is accompanied by ready availability for maintenance.

The simplicity of hanger rod and T-bar chassis arrangement insures efficient ceiling attachment and economical installation. The lamps in a single installation may be controlled in various combinations to provide different levels of working illumination.

Where room design or economies makes it desirable, individual luminous-acoustical panels will be available. The cross section of the structural sides of these partial illumination areas is essentially the same as the trapezoidal acoustical baffle in the totally luminous ceiling, thus assuring a substantial degree of acoustical control.

•

The Roden Electrical Supply Co., 808 N. Central Ave., Knoxville, Tenn., has been named a dealer for Allis-Chalmers transformers in Greene, Hamblen, Union, Campbell, Scott, Anderson, Knox, Sevier, Cocke, Blount, Monroe, Loudon, McMinn, Morgan, Cumberland, Meigs, Fentress and Roane counties in Tennessee.

The supply firm was organized in 1936 and is headed by H. D. Roden.

•

The Blackburn Specialty Company, Cleveland, Ohio, has changed its name to Blaco Manufacturing Company, and products manufactured will be sold under the new trade name Blaco. There are no changes in management personnel.

NEW LIGHTING TECHNIQUES — Topic of discussion between J. M. Ketch, of the engineering division at General Electric's Nela Park, and three southern utility lighting executives is industrial lighting problems. Some 30 leading lighting executives attended the two-day conference for utility lighting executives at the Institute, May 8 and 9, joining with personnel from the G. E. Lamp Department. Left to right are William P. McPherson, Carolina Power & Light Co., Raleigh, N. C.; J. P. Brown, Alabama Power Co., Birmingham, Ala.; Mr. Ketch; and G. L. Morris, also of Alabama Power Co. Subjects covered at the conference included application of lamps, applied lighting, and lighting promotion. Mr. Ketch and Walter Sturrock, also of the engineering division, served as chairmen.

NEW PRODUCT NEWS

Timing Relay

THE BULLETIN 849 pneumatic timing relay is a new adjustable timer announced by Allen-Bradley Co., Milwaukee, Wis.

The timer is available for alternating or direct current, and utilizes a synthetic rubber bellows for controlling the tripping time. The range is easily adjustable from 10 cycles to 3 minutes, with an accuracy of plus or

minus 10 per cent. The relay resets instantaneously. Performance is unaffected by temperature, humidity, or vibration.

The Bulletin 849 timer is available with quick make and quick break, double pole, silver alloy contacts—one set normally open and one set normally closed. Terminals are readily accessible from the front.

The unit can be readily changed from "on-delay" to "off-delay" operation by simply inverting the solenoid. The "on-delay" time delay interval occurs after the solenoid coil has been energized, the "off-delay" provides the time delay after the solenoid coil has been de-energized.

•

Reflector Spot Light

DEVELOPMENT of a new 500-watt R-40 (face five inches in diameter) reflector spot lamp has been announced by General Electric Lamp Business, Nela Park, Cleveland 12, Ohio.

The lamp has a heat-resistant glass bulb and mogul screw base, and is a companion to a previously announced flood lamp of the same wattage and size.

G.E. engineers said the spot distribution of light had been made possible for the first time in a hard glass reflector lamp by the development of a practical method for lightly frost

ing the inside of the face of the bulb. Heavy frosting results in a flood pattern, and no frosting at all causes striations to appear in the beam, it was explained.

Intended for outdoor use, the new spot lamp was designed to fill a need for a lamp to provide a small spot of light brighter and for longer distances than can be obtained with the flood lamp. The sturdy construction of the two lamps is seen as making them desirable for existing and new lighting applications at service stations, garages, parking lots, arenas, industrial plants and yards, roadside stands, street railway yards, bus garages, airport hangars and aprons, and docks.

The heat-resistant glass bulbs of these lamps withstand the thermal shock of drops of water, oil, and grease much more effectively than do similar lamps without the special glass. The mogul screw base provides greater strength than does the medium screw base, and reduces temperatures in the base, socket, and adjacent wire. Both the 500-watt spot and flood lamps are now available, and carry list prices of $3.60 and $3.00, respectively.

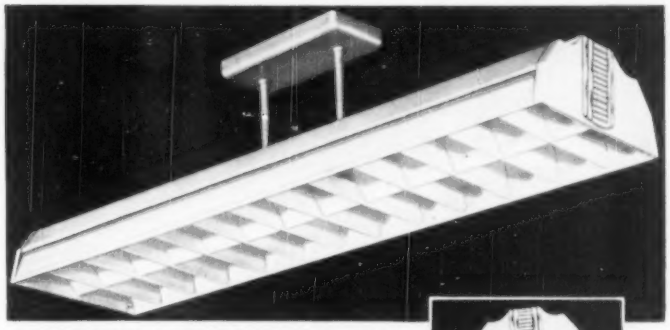
•

Push Contact Lampholders

A NEW LINE of push contact lampholders which will accommodate all sizes of Slimline lamps has been announced by Bryant Electric Co., Box D, Bantam Station, Bridgeport 2, Conn.

The devices are supplied in pairs for the low voltage primary and high voltage secondary and can be provided for bottom mounting or equipped with brackets for flush mounting. The high voltage devices are so designed that when the lamp pin is inserted, the contact in the plunger moves back and the end of the lamp seats firmly against the spring actuated plunger while the opposite lamp pin is being inserted in the low vol-

WHO'S GIVING WHO THE BUSINESS or . . Are you getting your share of school and institutional lighting dollars?



COMPCO'S DUAL-DIRECTION LUMINAIRE HELPS YOU GET THE BUSINESS

48" long, 12½" wide, 5½" deep. Has beautiful ornamental ends of satin finished chrome which can be easily removed for continuous row mounting.

GLARELESS HIGH-POWERED LIGHT IS ESSENTIAL in school rooms, hospitals and institutions. COMPCO'S 60/40 luminaire produces scientifically controlled reflected and diffused illumination with a maximum of efficiency. Illuminated metal sides . . . no dark spots . . . no glass or plastic to crack, discolor, peel or chip.

IT'S A FIXTURE EASY TO MAINTAIN, easy to install, and so completely versatile. Equally adaptable to flush or suspension mounting, singly, or in continuous rows. Louvers swing open from either side for ready access to components and for quick relamping, or can be completely removed without tools.

Also available in 48" SLIMLINE (Model 644), and 96" SLIMLINE (Model 648)

EXTRA COMPCO QUALITY AT NO EXTRA COST

You can't see it here, but once you lay your eyes on a COMPCO fixture you'll see what we mean by *extra* COMPCO QUALITY. It's there in the attention to fabricating details, in the hardware, in the wiring, in the nationally known and recognized components. Yes, important too, is the integrity of a company that backs up its products with a rock-bound guarantee of performance. And, you'll buy COMPCO products at competitive prices.
Write for our catalog and see.

COMPCO CORPORATION

For the finest in fluorescent fixtures!

2251 ST. PAUL AVE., CHICAGO 47

Compco

tage lampholder. When the lamp is in place, the lamp ends seat against the lampholders, providing support. Secure mounting is assured by the fact that the mounting screws thread into metal back plates.

These lampholders are equipped with 14-inch lay stranding wire leads which simplifies wiring in that it is unnecessary to twist or dip the wire ends. The lampholders are made of white thermosetting plastic, and, being of compact design, require but a minimum of space.

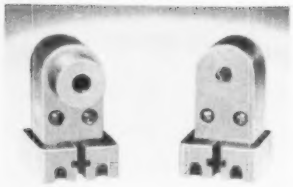
•

Slimline Lampholders

A SLIMLINE FLUORESCENT lampholder unit which takes all size lamps—from T/6, T/8, to T/12 (and larger, if made)—has been announced recently by Kulka Electric Mfg. Co., Inc., 30 South St., Mt. Vernon, N. Y., Dept. LB.

Called the "Multi-Scope," the unit combines the standard single-screw mounting, bi-pin type with a built-in "telescopic" feature recently introduced by this manufacturer in other type holders.

The lampholder is made of white Urea, and mounting portion is dimensionally the same as the standard type. It has front recess for a square nut, and also screw terminals staked and locked for easy wiring. The "telescopic" feature operates on a strong coil spring, which holds the lamp assures contact, yet allows for 1/4-inch variation in lamp lengths.



Said to be one of the smallest and sturdiest of its type, the lampholder was designed especially for use in channels, strips, lighting fixtures, and show case lighting.

•

Lighting Transformers

A NEW LINE of dry type general purpose lighting transformers has been announced by Macon Transformer Co., Inc., 32-54 Montgomery St., Hillside 5, N. J.

Physical changes have been made which permit increased circulation of air through and around the transformer resulting in lower operating temperatures. The built-in wiring compartment has been enlarged and the amount of available knockouts have been increased to facilitate the wiring of either an individual transformer or three units in a three-phase, completely self-contained bank.

Electrically, the use of Class B heatproof materials has resulted in increased overload capacity, as well as longer life during normal operations. Extra protection against oil, acids, alkalies, moisture, etc., is also provided by fine improved insulation.

The line, designated as Type C, is available from stock in the single phase ratings of 480/240—120/240, up to and including 15 kva. as well as three phase ratings of 240 or 480 on the primary and 120/208Y, 208/416 on the secondary.

•

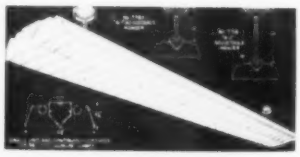
Shielded Fixture

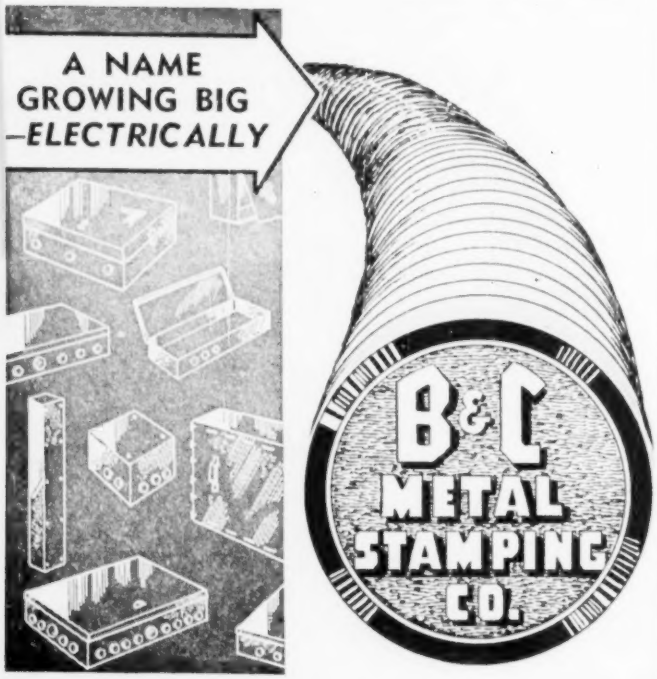
A NEW ALL-METAL shielded fixture for the recently announced T-12 Slimline lamps is now in production at Da-Brite Lighting, Inc., 5411 Bulwer Ave., St. Louis 7, Mo.

While this unit is designed basically for two 75-watt, 96-inch lamps it is also available in sizes for two 72-inch, 60-watt Slimline and two 48-inch, 40-watt Slimline lamps. Ballast equipment is for 430 milliamperes operation.

In addition to the above sizes for Slimline lamps, the "Luvex" is also available for standard 48-inch, 40-watt fluorescent lamps.

These fixtures are designed for ex-





NEW ADDRESS — 590 MEANS STREET N. W. — ATLANTA, GA.

trically easy installation in that the base chassis can first be installed and the entire louver and enclosure assembly then fastened to the chassis. For relamping and servicing operations, it is not necessary to remove the enclosure or any parts.

The fixtures are recommended for suspension mounting only, and lamps can be removed through the top opening.

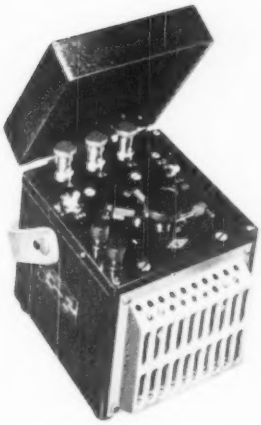
Fixtures are finished in hot bonded super-white enamel, and supplied with patented "AT" adjustable strip hangers.

•

Load Box

A new small impedance load box, Type HI-15, Cat. No. 977, has been announced by The Eastern Specialty Company, 5617 No. 8th St., Philadelphia 40, Pa.

This load box is intended to fill the need for a source of current suitable for testing polyphase transformers



rated wattmeter meters and other instruments having a relatively high burden.

Voltage input is 120 or 240 volts; current output is 2.5 - 5 - 10 - 15 amperes full load and 2.5 - 5 - 10 - 15 amperes light load. Ten and 15 amperes are at 10 volts. All other current values are at 20 volts.

Overall dimensions are 7 inches long, 6 3/8 inches wide, and 7 5/8 inches high to the top of the cover and weight is 11 pounds net.

•

Vibration-Absorbing Brush

A vibration-absorbing brush for rotating machinery has been put into production by Helwig Company,

FOR ALL YOUR ELECTRICAL PORCELAIN NEEDS

Specify ILLINOIS!

GUY STRAIN INSULATORS

Manufactured under rigid control standards, from the careful selection of materials through all steps leading to the top quality finished product. Internal stress eliminated through uniform firing at constant temperatures.

Available from large stocks of standard sizes.

SPECIFY ILLINOIS PORCELAIN

SPOOL INSULATORS

You won't find a better wet process porcelain spool! Here's the right combination of dependable mechanical and electrical strength in a wide range of styles and sizes produced to the usual high quality standards maintained by Illinois. Also manufactured by the dry process method to your specifications.

HIGH DIELECTRIC STRENGTH
HIGH MECHANICAL STRENGTH
EXACT DIMENSIONS
COMPLETE UNIFORMITY

®

ILLINOIS
ELECTRIC PORCELAIN CO.

MACOMB, ILLINOIS

2544 North 30th St., Milwaukee 10, Wisc.

Designed especially for mill type motors that are subject to outside vib-

ration, the new brush has a Neoprene pad actually fused to the carbon by a cement that unites chemically with Neoprene when heat and pressure are applied in manufacture.

According to the manufacturer, with the spring hammer riding on the Neoprene pad, the brush successfully absorbs the vibration that formerly caused early spring fatigue, sparking and commutator grinding are reduced, and motor performance is improved.

Installation where the new brush will give longer brush life include traction applications, diesel locomotives, electric shovels, cranes, rolling mills and any other spot where motors are subject to outside vibration.

•

Contractors Meet

(*Continued from page 40-B*)

ton, both discussed progress and aims of NECA—1950 Edition.

Among other discussions were business promotion, R. K. Robinson, Charlotte; business statistics, J. E. Mellett, Atlanta; labor, C. W. Moseley, Charlotte; bidding and bid peddling training, T. W. Wilmer, Richmond; management and technical personnel training, F. G. Groleau, Washington; field service, C. S. Thurber, field representative, Birmingham. An open forum followed.

During the discussions, it was brought out that contractors could work together, that they should learn to sell and learn what they have to sell. A delegate pointed out that they can get in the small jobs such as house wiring, which has become a good field with more construction, and that a committee has information on conditions in any territory. Traveling contractors, it was pointed out, get in more trouble than local contractors, because traveling contractors often do not understand local conditions.

Service Center

(*Continued from page 37*)

Freon refrigerant, thus causing the Freon to change from liquid to gas. The suction gas is raised in temperature and pressure by the compressor and the discharged hot gas is piped to the condenser where its acquired heat is transferred through the walls of the tubes, and the temperature is thus lowered to a point where the Freon changes again into the liquid state. The heat transferred in the condenser is carried away by the water pumped from the wells and is discharged finally into the sewer.

For heating, some of the heat contained in the water pumped from the wells is transferred into the Freon in the chiller, and the well water, having given up its heat, is then discharged into the sewer. The suction gas carries this heat to the compressor where the Freon is raised to a temperature and pressure such that the heat will flow from the hot gas to the water circulating in the condenser.

The circulating pump delivers heated water from the condenser to the coils in the air handling units where useful heat is transferred to the air and distributed through the duct system to the heated space. The circulating water returns from the air handling units to the condenser to pick up more heat.

Two wells 300 feet deep, and one 500-foot well equipped with deep well pumps are located along the east property line. Each well is capable of delivering 100 gpm

at approximately 67 degrees F. It is expected that two wells will furnish the maximum quantity of water needed at any time and that the third will act as a stand-by.

In addition to the heat pump system, separate exhaust systems are provided for the toilet rooms, blueprint room, kitchen, mechanical equipment room, and the stationery room. An auxiliary air conditioning system of the conventional type is furnished for the dispatcher's office.

Storehouse and Service Building

A structural steel frame was erected for the storehouse and service building which covers an area 138 feet x 194 feet. This structure and the office building appear as one, but they are actually two independent units separated by an expansion joint and a 12-inch tile firewall with automatic rolling fire doors. The floor slab is laid on sand fill similar to that placed for the office building and a 10-foot-wide concrete loading dock extends the full length of the south side of the building. A cantilevered canopy extends over the loading dock and will serve as a shelter for line trucks.

The exterior wall along the loading dock is eight-inch brick, while the north and west walls are corrugated asbestos. Overhead steel rolling doors were installed in the exterior walls and steel industrial doors were used for the two offices. This building and the canopy are protected from fire by an automatic wet pipe sprinkler system. Heating is supplied by gas-fired unit heaters, whereas motor-driven exhaust fans furnish ample ventilation.

Lineman's and Substation Building

The two-story portion of the lineman's and substation building is 69 feet by 69 feet, while the one-story substation portion is 69 feet by 80 feet. Exterior walls are of eight-inch brick up to the height of the first floor window sills with corrugated asbestos siding on a steel framework above the brickwork. Assembly room, locker, toilet, and shower rooms are located on the second floor.

Offices for the line, relay, and substation departments as well as working areas are on the first floor.

Shop and storage areas are all exposed construction. Terrazzo floors, glazed structural tile and plastered walls are provided for the toilet, shower, assembly room, and locker rooms, while the offices are similar to those previously described in the office building. A 20-ton overhead crane will operate electrically on a steel railway extending from within the substation to the far edge of the paved yard storage area. This 20-ton crane is augmented by a two-ton traveling hoist which connects the craneway with the loading dock and the shop area. The shop area is complete with standard maintenance machinery such as drills, lathes, planers, and presses.

Garage

The one-story garage building is set somewhat apart from the other buildings and it occupies a space 82 feet by 98 feet in size. Its construction closely resembles that of the line and substation building. Access to the washing and greasing stalls as well as entry to the hydraulic lifts in the individual repair areas is through steel overhead doors located on three sides of the building.

A two-ton hoist operation on a system of monorails will serve all repair, storage, and supply areas. Office, supply, toilet, and locker rooms are located in one corner of the building. Exhaust fans located on the roof will take care of summer ventilation. One of the unique features of the building, and new to this city, is the modern radiant heating system installed in the garage floor. This is supplemented by a fin tube heating radiation system. Hot water for both methods of heating is furnished by a boiler located on the balcony over the garage office and toilets. Adequate equipment is available to completely service automotive equipment from fuel and lubrication to mechanical repairs and major overhauling.

Car Storage Shelter

An ell-shaped shelter, providing maximum accessibility for automotive equipment, was erected in the extreme southeast corner of the area. This structure has a sheltered area of 7,300 square feet and contains parking stalls for 32 automobiles and four line trucks, as well as a 15-foot, six-inch by 15-feet, six-inch storeroom. Constructed with concrete floor slab, structural steel framework, and corrugated asbestos roofing and siding, the arrangement is economical and presents an appearance which is in harmony with the architectural design of the other structures. A continuous concrete bumper rises above the floor slab and acts to prevent damage to the siding whether equipment is backed or headed into the shelter.

Paint Shop

A standard 20-foot by 60-foot quonset hut set on a three-feet high concrete wall comprises the paint shop proper. This is adjoined by an equipment room 12 feet by 21 feet in size with concrete walls and aluminum built-up roof. The quonset hut is divided with a partition, giving two rooms, a painting room, 36 feet long, and a drying room, 24 feet long.

A 10-foot by 10-foot door is provided in each end of the hut and in the partition so that automotive equipment may enter the painting room, move to the drying room, and then out of the building. Heat in the painting room is provided by a fin-tube radiation system and ventilation is provided by exhaust fans. Infra-red paint drying equipment is being considered for installation at a later date.

Lighting Awards

(*Continued from page 34*)

for the upper window areas and the two rows of two-lamp, louvered fluorescent fixtures can be teamed up as required.

The artificial lighting alone can deliver 32 foot-candles in service in this classroom. Elsewhere in the building, levels as high as 45

foot-candles are available for classroom use. It is interesting to note that in the structural features of school buildings of this contemporary modern style the objectives in lighting have keyed the resulting fine appearance.

Other winners who participated in this installation were Van Keuren, Davis, & Co., architects, Birmingham; Hugh Roberts, Birmingham Electric Co.; Jack Wilson, Matthews Electric Supply Co., Birmingham; and Louis Dunn, contractor, Crook-Dunn Electric Co.

No. 6. Ralph Evick, Power Engineer, Kentucky & West Virginia Power Co., Inc., Ashland, Ky.

The Second National Bank of Ashland, Ky., has a trim, tailored appearance largely due to the techniques employed in its new lighting. Built-in lighting, comprising troffers, downlights, and a large central cove above the lobby floor, combine to produce the present handsome effect.

Both 96-inch slimline and regular 40-watt lamps are used in the troffers illuminating office areas adjacent to the lobby on the main floor and the mezzanine. Levels range from 35 to 45 foot-candles in these areas. General lighting for the lobby from the central ceiling cove, equipped with fluorescent tubing, is 20 foot-candles. This is supplemented by filament downlights and by localized lighting on the customers' writing tables.

Larger surfaces in this bank interior are in light colors with reflectances of 60 to 75 per cent.

No. 7. John P. Jett, Sales Promotion Dept., Appalachian Electric Power Co., Roanoke, Va.

Valances over four windows in the living room were lighted with 30-watt fluorescent lamps which supplied the general lighting in a prize-winning living room. Supplementing it were several Certified table lamps, a Certified floor lamp combining fluorescent and filament lighting, and a modernized antique lamp with the 150-watt R-40 white indirect-lite bulb which has been specifically designed to meet high lighting standards which educators recommend for easy seeing.

Completing the lighting in the living room is a Certified pin-to-wall lamp which provides lighting for a favorite easy chair. Wall finishes, which are also an important consideration in lighting recommendations, were taken into consideration by Mr. Jett when he recommended pastel green for the walls and near-white sand colored paint for the ceiling, both of which have high reflectance factors.

No. 8. Mrs. C. R. Yoder, Home Lighting Adviser, Delaware Power and Light Co., Wilmington, Dela.

Mrs. Yoder, who submitted one of the eight prize-winning residential lighting designs, relied completely upon Certified and other floor and table lamps in the relighting of an apartment.

Among the lamps which Mrs.

Out of seven years research by Killark —

— THE FIRST FITTINGS

in MALLEABLE DIE-CAST ALUMALLOY

Proved in the Field 6 WAYS BETTER

*Pat. Pending
WRITE FOR INFORMATION ABOUT THE COMPLETE LINE

60% LIGHTER THAN IRON—easier to handle.
NON-CORROSIBLE—and weatherproof throughout.
MALLEABLE—they withstand shock and strain *far beyond* job demands.
SATIN-SMOOTH FINISH—new protection for wire insulation.
CLEAN-CUT THREADS—easier fitting . . . perfect fitting.
NON-SPARKING—they eliminate fire and explosion hazards.

The First Allumalloy Fixtures Too . . . a Complete Line of Fittings and Fixtures for Electrical Installation
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LIGHTING EQUIPMENT FOR EVERY NEED

Yoder included in her prize-winning installation were a Certified floor lamp combining filament and fluorescent lighting, a pin-to-wall lamp, a swing-arm bridge lamp, and a 100-300-watt torchiere for indirect lighting.

Electrical Safety

(Continued from page 31)

of feeder breakers of the oil immersed type, connected to an extension of the transformer secondary bus. Many of these installations are still in use, although they have long passed their period of adequacy; and their short circuit interrupting capacities have been exceeded by the increased short circuit power available. Frequently, the feeder loads have been increased and in some instances uninformed "Gremlins" intending to be helpful have seen fit to render the tripping mechanism inoperative, sometimes even tieing them up.

Since these rooms usually have a combustible floor and ceiling, and the possibility of an oil fire exists, they have required automatic sprinkler protection. It does not require much imagination to visualize the effect of a severe short circuit within the mill, failing to be promptly cleared by one of these "one horse shay" breakers, which in turn might fail violently with a resultant oil fire.

In such an occurrence, the sprinklers would undoubtedly go into action, probably confining and controlling the fire and saving the building. In the meantime it is quite probable that all of the other switchgear would have been involved, either by fire or water damage or by subsequent arcing and short circuiting. Very expensive and prolonged shutdowns of a mill are often the result.

Where possible, such obsolete equipment should be replaced with a properly engineered installation of suitable air circuit breakers, preferably including both instantaneous and overload protection. Since air circuit breakers do not involve the probability of an oil fire, it is preferable to locate such equipment in a fire resistive, cut off room so that sprinkler protection may be rightly omitted.

Of course, in such instances the room should be used for no other purpose than to house the particular switchgear. Many mills, especially where inside space is at a premium, have found the use of suitable outdoor switchgear to be highly satisfactory. Outdoor switchgear has the added advantage that it is not convenient for use as a clothes closet, janitor's room, or store room.

I would like to mention one condition of circuit breaker arrangement, primarily because I have seen a number of relatively modern installations made without due consideration being given short circuit interrupting capacities. Because of the tremendous amount of short circuit current available at most of the larger

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mills, it is frequently economically advisable and sound engineering to arrange a cascaded circuit breaker system; in other words, one main breaker which may require interrupting capacities of as much as 100,000 amperes, and then through proper coordination of the feeder breakers, their interrupting capacities may be selected on a considerably lower basis. Although I have not seen air core reactors applied to cotton mill switchgear, I see no reason why such equipment, properly engineered and installed, should not be used to advantage. Two excellent papers on this subject were presented at the 1949 AIEE Winter Meeting in New York.

Here is another important factor dealing with feeder circuit breaker settings. It is usually assumed that the selected circuit breaker will be loaded near its rating. To prevent undue operation under motor starting conditions, and since it is not intended to provide motor overload protection, a trip setting well above the breaker rating is usually recommended.

This assumption is not always sound when cotton mill applications are concerned, and sometimes it results in nullifying the feeder over-current protection required by the National Electric Code. Here the feeder load is largely a continuous duty motor load, and it is often desirable to oversize the feeder. Then if an oversize circuit breaker is selected, we should be careful to base the selection of the trip setting on the feeder rating.

There has been some misunderstanding on this score, and it might be well to remember that although the principle function of the modern air circuit breaker is to provide exceptionally fast operation under short circuit conditions, it should also provide the required feeder protection as well.

(The second part of this discussion will appear in the July issue of ELECTRICAL SOUTH.)

Good Housekeeping

(Continued from page 29)

"You'd be surprised at the amount of wire we save with this plan," said Kirk. "Not only does it save time getting down a big coil to get a small piece of the size wire required but the value of the wire saved is appreciable also."

Conduit L's the right size had always been another item that had to be hunted for. "Too," said Kirk, "we never had a quick means to determine our inventory. So we made a fixture to hold the L's. This fixture measures thirty-inches across at the base and tapers up to 12 inches at the top. The fixture is five-feet high. We used conduit because it is easier to weld than galvanized pipe."

The storage of small parts has been simplified with the construction of a compartment case as shown in one of the photos. The compartment separators are made from strong wire mesh. This allows light to pass from one section to another.

"The war years taught us the value of carrying a thirty- to sixty-day inventory," said Kirk. "Much valuable time can be consumed chasing back and forth

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Says . . .

Throw away your Sledge Hammer . . . my *Sharp points* only need a little thumb pressure to get me started.

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Manufacturers of Pry-Lites—the modern recessed lighting fixtures with snap-on fronts

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from the various jobbers. But a large inventory is unsatisfactory unless storage is such that items can be located quickly.

"Most of us depend too much on our jobbers to keep stock for us. When we go to a jobber, we are told immediately whether that item is available. The counterman only has to look in one spot. If that space is bare he knows they are temporarily out. If he had to go about locating items as does the average contractor, they'd go broke. And this holds true with us, I think, only to a lesser extent."

Kirk has another interesting unit. It is a frame made from conduit that holds 36 bread-tins . . . 1-pound size. These tins contain various size nuts, bolts, screws . . . and small fittings. Usually when a small quantity of these items is needed, the original box they come in is found somewhere around the shop. Now if a half dozen small screws and bolts is needed, the average man is not going to stop and count out the exact number. He will spill what he gauges to be the right amount into his hand and go back to his work. If he has two or three too many . . . and he isn't going to short change himself and make an extra trip . . . he will be the ideal workman if he takes time off and carries them back and puts them in the box. More than likely, he will toss them on the bench, to be swept out later.

At Kirk's when a worker needs such items he picks up the tin and takes it to his work. He uses just the number he needs . . . and when he is going back in the direction of the bread-tin unit, he carries the tray back with him. No time has been lost, no material has been wasted. The shop remains neater, too, as a consequence.

"The expense of outfitting the shop was negligible, and it is easy to maintain once it has been set up. Easier than to toss and throw . . . then hunt and become exasperated."

mechanic who handled the job."

The permanent file, in manila folders, has proven best when broken down under names of individual foremen or repairmen, Dixie Electric Company has found. Where information must be found to effect additional repairs or answer questions, the job is quickly traced to the man who handled the job, who, of course, is best qualified to give information. Thus, under every repairman's name, or crew foreman's name, is a thick sheaf of slot-clip pound sheets showing a day-by-day record of his work for years back.

"The major advantage of this system is that the electrician himself does most of the bookkeeping involved, and the details can always be traced to the man who did the job," Mr. Jehle added. "There are countless instances in which ready information, instead of vague suppositions or guesses, have won us good will and extra service orders."

Not only service, but the sales

Diversified Services

(*Continued from page 28*)

man identified with the holder. Meanwhile, the white first sheet is retained in the office, in an active file, to identify the man responsible for the job, and to answer any questions which may come up about it.

"We hold the white sheet until the yellow one is returned," Mr. Jehle said, "which may mean one day or six months, depending upon the work. When the repair job is finished—and most, of course, require only part of a day—the electrician brings in the yellow sheet, which is stapled to the white, and passed to the billing office for invoicing. All details are covered on the yellow sheet, including any special charges or materials, and both then become part of a permanent file, under the name of the crew foreman or

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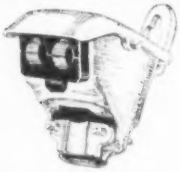


SERVICE ENTRANCE CAP
1819

Sold Thru
Your Local Wholesaler

ATLANTIC CONDUIT FITTINGS CO.
BOSTON, MASS.

end of Dixie Electric Company is equally diversified. This is the result of determination by Mr. Crump to capitalize to the full extent on the thousands of contacts per year he makes with Montgomery residents, architects, building contractors, etc. At the front of the building is a complete appliance showroom, franchised with two major appliance lines, under William Beasley, retail sales manager. Likewise located here are electrical equipment, lighting fixtures, commercial electrical supplies, etc.

The appliance department, with a crew of three outside salesmen and three floor men, sells a volume consistently in the top brackets, much of it directly traceable to a fine service reputation. Instead of entering into the "dog eat dog" competition normally associated with major appliance retailing, Mr. Crump has neatly sidestepped it by sticking to manufacturer - recommended list prices, and offering the homeowner absolutely guaranteed installation, adjustments, and permanent maintenance of any home appliance.

"We've found this an unbeatable combination," Mr. Crump said, "particularly with the customer who has had bad experiences with service in the past."

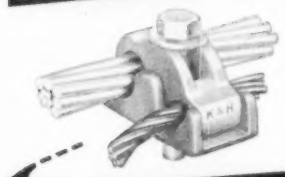
Likewise important is the opportunity to offer package installation where new homes are concerned. Dixie Electric Company supplies a large percentage of complete electric kitchens and all supporting appliances where the firm accepts the wiring contract, or lighting fixture installation. In many such instances, it has been the homeowner's confidence in Dixie's service departments which has been the weighty factor in signing the order.

One of the most interesting sales operations which Dixie Electric has developed is the "hard dog" program among all electricians on the staff. Out on the job with home repairs, driving the firm's neat, all-blue, compartmented rolling shops, each repairman is actually salesman and serviceman combined, as Mr. Crump put it. Each has been trained to look for potential sales prospects, whether the commercial firm which needs package air conditioning or a better lighting system, or the homeowner getting by on obsolete refrigerators, ranges, water heaters, etc.

Each man has had sufficient training to put over such sales himself—or if time and circumstances do not permit, he is nevertheless rewarded for the tip. Each repairman turns in to the sales offices any promising leads he develops during the day, which is the signal for one of the versatile outside salesmen of the firm to call on the prospect. If such tips result in sales, the service mechanic is rewarded with a 2 per cent commission, not an inconsiderable amount in view of large-scale orders written by the sales staff.

Needless to say, each keeps his eyes open, concentrates on courtesy and efficiency in repairs which can lead to later sales. All of the teamwork thus involved has led to a tremendously important service reputation for the Alabama electrical firm.

HERE'S A CONNECTOR



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Effectively used as guy line ground, or transformer and lightning arrester connection to A.C.S.R. or copperweld conductors where the diameter may be from 8-A copperweld to .595" A.C.S.R. armour rods.

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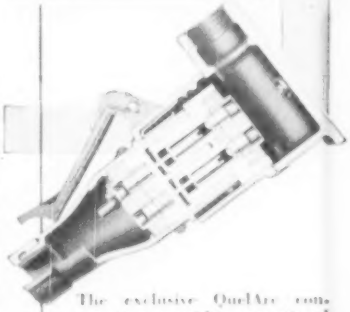
QUELARC

The Circuit Breaking Plugs and Receptacles . . . Ratings Up to 200 AMPERES



The exclusive QuelArc construction provides exceptional protection to contacts, for safe use as current rupturing devices. Unique partitioned insulation provides extra long distance between contacts and between contacts and ground. Insulating chambers completely enclose all contacts and form an arc-trapping space. Galvanized cast metal housings, bakelite insulation and individually renewable contacts insure long service life.

QuelArc plugs and receptacles are available in a complete range of styles, 2, 3 and 4 pole types—grounded through shell or extra pole. Housings with threaded cap, plain cap or hinged spring door. Ratings 20, 30, 60, 100 and 200 amperes, 250 volts DC, 600 volts AC. Consult your Pylet Catalog 1100, Bul. 1140-2 for complete listings.

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Buy McGill lamp guards and you've got the best . . . the strongest . . . the longest lasting guards you've ever seen. Compare McGill with any other guard. Point for point — in cages, handles, sockets or cords — you will see the superiority of McGill that means longer service and better protection from lamp breakage. No matter what your guard needs may be, there is a built-to-be-better McGill lamp guard to fit the bill exactly.

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The most popular series made. Has strong wire cage and molded rubber handles. Strain relief disc protects cord terminals. The same construction with wooden handles is available in the 8000 series.

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No. 202A. Medium Base. Has shade-holder ledge. Made of Bakelite and designed especially for outdoor use. Has molded Bakelite insert to prevent shorts from water leaks. Center contact is of phosphor bronze. Comes with wire leads.

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Has unique attach-on feature. Quickly wired and installed, as it requires no soldering. Has suspension hook. Rugged construction makes it ideal for all outdoor decorative lighting.

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5/8" x 8'

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Sharp-pointed for easy driving . . . hot-dip galvanized for positive protection against rust. 5/8" x 8' size carried in stock. Other sizes available.

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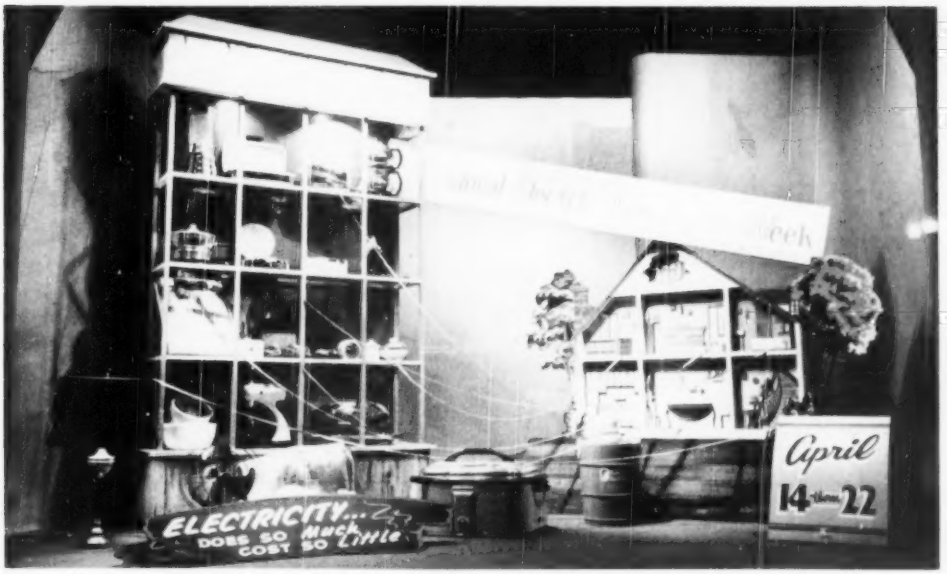
ELECTRICAL SOUTH

June, 1950

This is one section of the current issue of Electrical South.

Appliance Section

Household and Commercial Appliances • Radio • Television



OUTSTANDING, BUT NOT TYPICAL—This window display of New Orleans Public Service, Inc., is an outstanding example of effective tie-in with National Electrical Housewares Week, but hundreds of dealers neglected this promotional opportunity.

IN THIS ISSUE:

Managing Salesmen 76
Driveway Demonstrations 78
Plans to Sell Fans 82

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ELECTRICAL SOUTH, 806 Peachtree St., NE, Atlanta 5, Ga.

SELL THE FLOOR MACHINE THAT GIVES YOUR CUSTOMERS GREATEST VALUE... THAT GIVES YOU GREATEST PROFIT!

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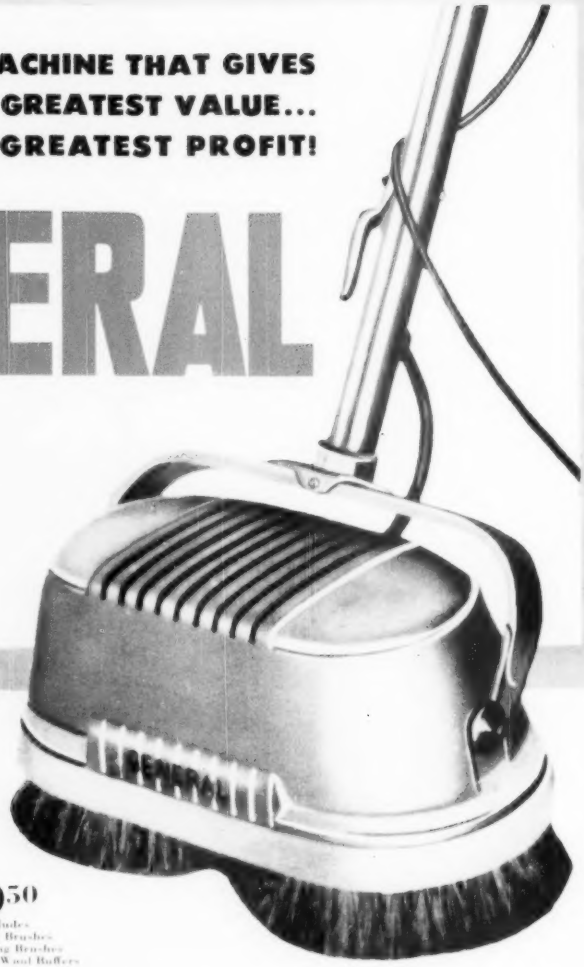

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Owners rave about the Universal's ability to perform with clarity and volume even in remote locations where many portables fail. Has an extra-powerful circuit with Tuned R. F. amplification, a more sensitive Alnico "5" Speaker, the exclusive Wavemagnet*, AC-DC or battery operation. Smartly styled Buffalo-Grained case in Black or Brown.

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Outperforms any portable, anywhere. The one set to sell when customers want long-range reception. Gets standard plus International Short Wave on 2 separate bands. Handsome Pyroxylin Pyroxylin Protected against loss of sensitivity. For AC-DC or battery.

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Now this famous manufacturer produces three *more* product lines in the Deepfreeze Home Freezer tradition, increasing dealer profit opportunities to an all-time high!

Deepfreeze pays off in quick profits to appliance dealers who sell its home freezers, refrigerators, electric ranges and electric water heaters. Advertising has created an enthusiastic "public" for the many advantages of Deepfreeze famous name products.

Ask your Deepfreeze Distributor for details about the profitable Deepfreeze franchise today!

...and the name that built these refrigerator EXCLUSIVES builds store traffic!

Five models to fill every prospect's need —all with famous *Deepfreeze* Exclusives!

MODEL F-11 *(Illustrated)*
• Net Storage Capacity, 11.3 Cu. Ft. • Overall Height 65¾" • Overall Width 33½" • Overall Depth 25¾".

MODEL W-11
• Net Storage Capacity 10.5 Cu. Ft. • Overall Height 65¾" • Overall Width 33½" • Overall Depth 25¾".

MODEL W-9
• Net Storage Capacity 8.5 Cu. Ft. • Overall Height 61¼" • Overall Width 30¾" • Overall Depth 25¾".

MODEL F-9
• Net Storage Capacity 9.1 Cu. Ft. • Overall Height 61¼" • Overall Width 30¾" • Overall Depth 25¾".

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GO BUY THE NAME—Deepfreeze

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6 Models! New Features! The Famous Deepfreeze Home Freezer!

Always the nation's No. 1 home freezer buy with new, improved features! Larger capacities at lower prices. There's a model for every size home. Latest addition to the line is the De Luxe Model C-16. This intermediate size holds more than 560 lbs. of assorted foods. Sell the line that your customers think of *first* when they are in the market for a home freezer!

4 All-New Models! New Features! The Deepfreeze Electric Range!

Increase volume sales by offering better automatic cooking! These Deepfreeze features are Mrs. America's favorites: Automatic Time Control and Electric Clock • Monotube super contact units • Porcelain Enameled Broiler Pan and Aluminum Alloy Smokeless Tray • Interval Timer • Reminder Clock for periods up to 60 minutes • Automatic Pre-heat Oven Temperature Control • Appliance Outlet • Fluorescent Range Lamp • Broil-Bake Signal Lights • Automatic Oven Light • Inset Pan • Trivet and French Fry Baskets. They give years of dependable service!

The Deepfreeze Electric Water Heater! 14 All-New Models! New Features!

Sell your customers with Deepfreeze "Black Heat"—the dependable feature that avoids formation of rust or scale. Special magnesium protector rod retards corrosion and contributes to the *long life* of all Deepfreeze Electric Water Heaters.

Offer *lasting satisfaction* with 10-year liberal protection policy. It includes a standard one-year operating warranty *plus* additional policy against tank failure!

Promote Deepfreeze Electric Water Heaters — sell them for extra appliance business. Many homes with modern appliances now have inadequate hot water supplies. Prospects are naturals for Deepfreeze Electric Water Heater sales!

See what the Franchise with a Future will do for you today!

Find out what Deepfreeze will do *right now* to help you sell. Have your Deepfreeze Distributor explain the Deepfreeze Franchise. Ask him about the national advertising program and the many practical selling aids available to Deepfreeze dealers. Don't delay—see your distributor—or write direct for details about America's Number 1 home appliance franchise. Deepfreeze Appliance Division, Motor Products Corporation, North Chicago, Illinois.

THIS MAN WOULDN'T NEGLECT

A MACHINE IN HIS PLANT

...yet he hasn't had a Chest X-Ray!

He checks every piece of mechanical equipment he owns for wear, lubrication, efficiency.

Yet he fails to take the simple precaution of a Chest X-Ray to make sure he does not have tuberculosis. *Not because he's opposed to the X-Ray. Simply because he is not sufficiently informed—or just hasn't taken the time and trouble, or does not realize the seriousness of the problem.*

A Chest X-Ray is the first step toward detecting tuberculosis in its early stages. And in its early stages it can be cured with the least loss of time from work.

So, if you're the man above, that one simple reason should make you get your Chest X-Ray—*today*. But listen, see how serious this really is:

Between the ages of 15 and 34, tuberculosis leads all other diseases as a cause of death—although at no age are you safe from TB. Yet, if everyone does his part by getting a Chest X-Ray periodically, and the majority of cases thus discovered are followed up, we can eliminate TB entirely as a public health hazard!

Will you do your part today? Get a Chest X-Ray. It may mean your life!

Published in the public interest by:

ELECTRICAL SOUTH

UNDER-COUNTER MODEL slips under work surface in present kitchens. Its low cost and easy installation also make it ideal for new homes.

Westinghouse proudly presents

THE DISHWASHER THAT'S DIFFERENT

The secret is in the ROLL-OUT WASHWELL*

It opens from the front, yet loads from the top. Thus, the new Westinghouse Dishwasher with its Roll-Out WASHWELL gives hip-high, no-stoop loading. At the same time it provides a constantly usable work surface. Closed, it's as leakproof as the suit of a deep-sea diver.

There are three different models . . . to fit any prospect's kitchen. There's a 48" Electric Sink with built-in Waste-Away. Then there's a 24" Cabinet Dishwasher. And to round out the line, an Under-Counter Model for use with any standard work surface. Prices start at $254.95. And as a further sales clincher, installation costs are 50% to 75% less than those of most other makes.

You'll be doing your customers a real turn by urging them to wait till they can see this new Westinghouse Dishwasher.

*Patent Pend.

EXTRA-LARGE CAPACITY. Does complete service for 4 *plus* pots and pans, all at one time. Or dinner service for 8, including large platters, tall glasses.

WASTE-AWAY GARBAGE DISPOSER optional equipment, in 48" Electric Sink selling complete package, ups retailer's profit substantially.

. . . of course, it's electric!

WESTINGHOUSE ELECTRIC CORPORATION • Appliance Division, Mansfield, Ohio

YOU CAN BE SURE . . IF IT'S Westinghouse

Good Business . . . the Year 'Round

There's a more productive and more profitable way of merchandising home appliances today—a method which up and coming dealers everywhere are taking advantage of because it insures sales and profits every month of the year.

It's the Hotpoint way—a full line of products (every major unit for the complete electric kitchen and home laundry) for a full year of profits. If you aren't selling ranges, you're selling refrigerators or dishwashers or water heaters or any one or all of the famous Hotpoint products—not now and then but every week of the month—every month of the year.

New and improved styles—new and exclusive outstanding selling features and a COMPLETE LINE form the basis of Hotpoint's new and dynamic year 'round profit program for Hotpoint dealers. It's the modern, up-to-date home appliance franchise and way of doing business—the full-line Hotpoint franchise. If you want to corral the bulk of home appliance sales in your town or territory—assure yourself of more traffic in your store—more profitable sales every month of the year—do as big and little dealers are doing all over the country—"SWITCH to HOTPOINT". The Hotpoint distributor will give you his full cooperation.

★ ***No More "Letdowns" Following Hot Selling Seasons***

★ ***No More "Doldrums" That Eat Away Profits***

★ ***No More "Valleys" That Reduce Profit Peaks***

. . . But A Full Line Of Products That Insures A Full Year Of Profits

Switch to Hotpoint!

for YEAR 'ROUND Profits!

Hotpoint INC.

(A General Electric Affiliate)

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALS

WATER HEATERS • FOOD FREEZERS • AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS • CABINETS

5600 West Taylor Street, Chicago 44, Illinois

CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 7, 9, and 75)

2004—Air Conditioning Equipment. New Bulletin No. 3158 B, "Central Air Conditioning Equipment," contains comprehensive information on this type of equipment along with charts, specifications, and maintenance instructions. The bulletin has been released by Buffalo Forge Co., P. O. Box 985, Buffalo 5, N. Y.

2008—Automatic Toasters. Latest illustrated catalog sheets on Toastswell electric appliances, including two and four-slice automatic toasters cloth domestic and commercial types and new Toastswell bun warmer featuring moisture control and removable enclosed heating element are available from The Toastswell Co., 620 Tower Grove Ave., St. Louis 10, Mo.

2010—Water Heaters. An illustrated folder describing Bell Water Heaters and the ten-year guarantee and warranty is available from Adacar Mfg. Co., Naper Field, Dothan, Ala.

2012—Room and Unit Heaters. Electromatic Corp., 3 Crouch St., Rochester 3, N. Y., has announced two new catalogs, each of which contains descriptions, complete specifications, illustrations of the units, and shows typical installations as well as other helpful information concerning heating by electricity. Catalog EC 62 is the industrial catalog and No. EC 63 is the domestic catalog.

2014—Hot Water Heaters. Informative and well-illustrated data are available from M. M. Hedges Manufacturing Co., Inc., Chattanooga, Tenn., on their line of Merthod Automatic water heaters.

2018—Electric Fans. A 28-page, profusely illustrated booklet describes in complete detail, this company's line of fans. Booklet available from Emerson Electric Manufacturing Co., St. Louis 21, Mo.

2022—Window and Attic Fans. A four-page catalog page completely illustrated and containing descriptive information on the new low cost "all in one package" window and attic fans has just been released by the Viking Air Conditioning Corp., 3601 Walworth Ave., Cleveland 2, Ohio. Illustrations of automatic ceiling shutter and automatic electric timer are included.

2024—Electric Water Heaters. New specification sheets are now available for a full line of cylinder and table top models, featuring the Water Heater, from the White Products Corp., Middleville, Mich.

2026—Heaters and Circulators. The complete line of Minar Products, Inc., Brooklyn 3, N. Y., is included in a folder which gives specifications, features, and prices of all Minar heaters and air circulators.

2028—Fans. Catalogs Nos. 863 and 864, just issued by Chicago Fan & Blower Co., Inc., 1210 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial, and industrial uses. These catalogs include information on 17 types of ventilating and comfort cooling equipment varying in size from 12 inches to 60 inches.

2030—Electric Fans & Bells. Signal's complete line is shown in a new catalog just off the press, featuring a wide variety of clock, pedestal, exhaust, and vent fans. Literature on bells, telegraphic equipment, and motors is also available from the Signal Electric Mfg. Co., Menominee, Mich.

2032—Electric and Gas Water Heaters. Four-page illustrated folders explain outstanding features of Fowler water heaters including porcelain lining, "black heat" elements, and "Snow" insulation. These folders list specifications, dimensions, and construction details and are available from Fowler Manufacturing Company, 2345 S. E. Gladstone St., Portland 2, Ore.

2034—Electric Flat Irons. Full information on American Beauty Electric Flat Irons in a weight, a shape, a size for homes, hotels, as well as every industrial and automatic use, is available in literature from the American Electrical Heater Company, Detroit 2, Mich.

2036—Fans. Colorful literature describing the new spring suspended silent window ventilating fans and table air circulators to be featured in 1950 are now available from the Fan Division, International Oil Burner Co., 5802 Park Ave., St. Louis, Mo.

2038—Murray Ventilating Fans. A set of specification sheets is available describing the Murray line of fans, including 20 and 24 inch window fans and vertical and horizontal ventilating fans. H. C. Biglin Co., Inc., 177 Harris St., NW., Atlanta 3, Ga., is exclusive sales agent for the line which is manufactured by Murray Co. of Texas, Inc.

2040—Electric Blowers and Exhausters. Bulletin 3014 D describes Types "E" and "RE" Buffalo blowers and exhausters manufactured by Buffalo Forge Co., Buffalo 7, N. Y. Characteristics of the blowers, graphs, charts including capacities and static pressures, and exact dimensions are all contained in the 8-page folder.

ELECTRICAL SOUTH,
806 Peachtree St., NE
Atlanta 5, Ga.

June, 1950

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name _____ **Title** _____

Company _____

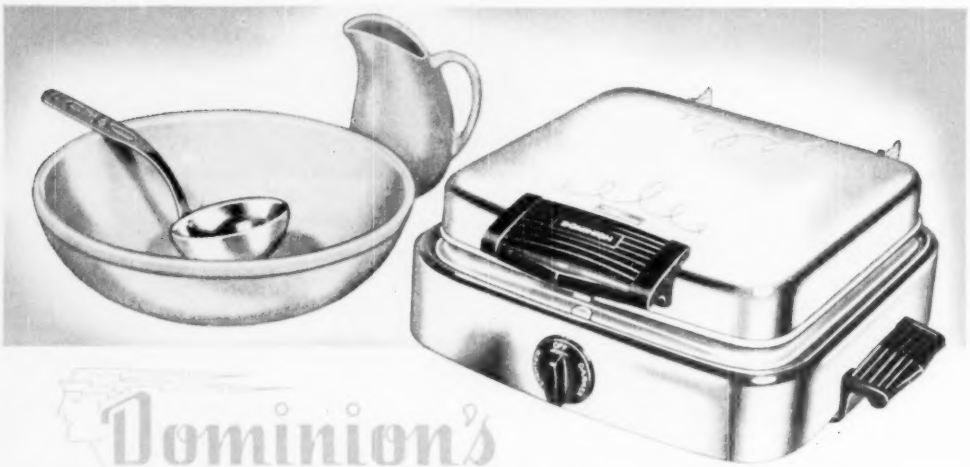
Address _____

City & State _____

Circle numbers below. Bulletins and catalogs will be mailed promptly.

2004	2008	2010	2012	2014
2018	2022	2024	2028	2030
2032	2034	2036	2038	2040
2042	2044	2046	2048	2050
2052	2056	2058	2060	2062
2064	2066	2068	2070	2072
2076	2078	2080	2082	2084
2086	2088	2090	2092	2094
2096	2098	2100	2102	2104
2106	2108	2110		

THE *Ideal Gift* FOR ALL OCCASIONS



Dominion's

BEAUTIFUL COMBINATION WAFFLE SET

including

Exclusively styled surf-green bowl -- holds generous supply of batter.

Matching 12 oz. syrup pitcher -- handsomely styled.

Chrome plated ladle with matching design on handle.

.. all for the price of the "Grid-O-Matic" alone

Think what you can do with this special for brides, birthdays, anniversaries and many other occasions when your customers are looking for something really outstanding! You have here a distinct price advantage over any comparable combination.

Dominion's "Grid-O-Matic" already enjoys unusually fine acceptance. It represents a "best buy" even without the waffle set. Only one set of reversible grids bakes waffles large enough to serve four people. Or, quickly reverse the grids and you have two large cooking surfaces for grilling chops, bacon, eggs, toasting sandwiches, etc.

DOMINION APPLIANCES—Available through reputable distributors across the nation.

See the full Dominion line at National Housewares Show Atlantic City - July 10-21

only $23.95

(SLIGHTLY HIGHER IN THE WEST - - THIS SPECIAL OFFER FOR A LIMITED TIME)

Dominion APPLIANCES

DOMINION ELECTRIC CORPORATION • • MANSFIELD, OHIO

2042—Window Fans. Meier Electric & Machine Co., Inc., 3525 E. Washington St., Indianapolis 7, Ind., have available the following catalog sheets: Form 2207, which describes and illustrates each of their five Nuair Windofans; Form 2208, describing and illustrating three three-blade and one four-blade Nuair Quiet Propellers; and Form 2209, which illustrates the Nuair Windofan No. RW-240 or RW-200.

2044—Fan Units. G-M Laboratories, Inc., 4300 N. Knox Ave., Chicago 41, Ill., have released catalog pages of description on each of the four fan and fan and heater units currently in their line. Informative and well illustrated, these pages list the sizes, characteristics, prices, etc., of each model.

2046—Household Electrical Appliances. Dominion Electric Corp., Mansfield, Ohio, offers catalog information and detailed specifications on a complete line of table appliances, called "Family Favorites."

2048—Room and Water Heaters. Wesix Electric Heater Co., 300 First St., San Francisco 7, Calif., offers an 8-page illustrated catalog describing Wesix products for home, office and industry.

2050—Cooling and Ventilating Equipment. Complete data are available on Chill-Air window fans and coolers for home, theatre and store; recirculating pumps and blowers. White Nelmond Engineering and Manufacturing Co., 523 Wyandotte, Kansas City, Mo.

2052—Portable Circulating Heater. A catalog sheet describing 1320 or 1680 watt portable circulating heaters, featuring cool case and room-wide heat penetration, is available from the Titan Mfg. Co., Inc., 200 Terrace, Buffalo 2, N. Y.

2056—Radiant Heaters. Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa., has prepared a portfolio of Chromalox Radiant Heater Application Reports. In addition, the portfolio includes catalog sheets and technical data on the Chromalox "RAD" heaters.

2058—Exhaust Fans. A new Emerson-Electric Exhaust Fan catalog, illustrating and describing in detail the line of fans for all types of buildings, is offered by the Emerson Electric Mfg. Co., St. Louis 21, Mo.

2060—Propellor Fans. The Herman Nelson Corp., Moline, Ill., announces its new Bulletin 311 containing 12 pages of technical information and concise details about direct and belt drive propeller fans as well as practical, proven unit fans.

2062—Hot Water Heater. Informative and well illustrated data are available from Bell Electric Products Co., 700 Murphy Ave., SW., Atlanta, Ga., on their Tabletop Electric Water Heaters. These units are available in single and double element with a three gallon capacity.

2064—Electric Fans. An attractive, 8-page, 6-and Season Catalog of Zephyr fans has been made available by the Hunter Fan & Ventilating Co., P. O. Box 2855, Memphis 2, Tenn. A comprehensive description of this company's products is given, with complete specifications and dimensions.

2066—Shutters & Dampers. A 12-page catalog No. 46) is available from the Elgin Shutter Mfg. Co., 2738 W. Warren Ave., Detroit 2, Mich., describing the 17 different types of shutter and dampers manufactured by them, and as used in connection with ventilating and reconditioning installations.

2068—Air Circulator. An illustrated catalog page (Form 2-0[illegible] 8½ x 11 inches in two colors, gives complete specifications and performance characteristics of the G-M 600-24-inch Oscillating 3-Speed Air Circulator. A special 7½ x 11 page of diagrams shows operation of the safety release on the oscillating mechanism. A chart compares performance of this model with other well-known makes. Also always 8 x 10 photographs of separate wall, floor, and counter models are available from G-M Laboratories, Inc., 4323 N. Knox Ave., Chicago 41, Ill.

2070—Zephyr Fans. Hunter Fan and Ventilating Co., Inc., 400 So. Front St., Memphis, Tenn., offers a new 8-page catalog containing detailed information on the Hunter Zephyr Fans, for home and industry.

2072—Reed Unit Fans. A new 16-page booklet on unit fans has been published by Reed Unit Fans, Inc., 1001 St. Charles Ave., New Orleans 8, La. This booklet describes the design of the Reed reversible unit fan and how by adding various attachments it serves all purposes and uses.

2074—Ventilating Fans. The complete line of C. & H. ventilating fans is pictured, with dimensions and details, in a new 24-page catalog. Described are exhaust fans, window fans, air circulators, portable and desk fans, and fan accessories such as grilles and shutters. C. & H. Air Conditioning Fan Co., Inc., 1603 DeKalb Ave., NE., Atlanta, Ga.

2076—Coffee Makers. The complete line of Cory coffee products, including the famous Cory rubberless coffee brewers, service set, the Cory Automatic, electric coffee grinders, 2-burner electric stove, and commercial units is described in a 20-page, beautifully illustrated booklet. Copies may be obtained from the Cory Corp., 221 N. La Salle St., Chicago, Ill.

2078—Sales Helps. A variety of sales helps, including Sound Slide Colored Training Films, How to Sell Booklets, Consumer Pieces, Specification Sheets, Demonstration Kits, Display Cards and Promotion Kits for selling and demonstrating General Mills Home Appliances—Pressure Quick Steamer, Tri-Heat Iron and Steam Ironing Attachments are available to dealers from General Mills, Inc., Home Appliance Dept., 1620 Coral Ave., Minneapolis 13, Minn.

2080—Water Heaters. Information is available about the "SEPCO" Electric Water Heater from the Automatic Electric Heater Co., Pottstown, Pa. Literature available describes several exclusive features in the "SEPCO" line of mount and table top heaters.

2082—Fans. Catalogs Nos. 503 and 504, put out by Clifford Fan & Blower Co., Inc., 1200 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial and industrial uses. These catalogs include information on 17 types of ventilating and comfort cooling equipment varying in sizes from 12 inches to 60 inches, and in output from 1300 c.f.m. to 32,000 c.f.m.

2084—Lakewood Fans. Ventilating fans, spray booth fans, window ventilators, shutters, and replacement parts for all units are described in a catalog available from Lakewood Engineering & Manufacturing Co., 1776 W. Lake St., Chicago 12, Ill.

2086—Monarch Electric Ranges. Data is available from Mallable Iron Range Co., 4861 Lake St., Beaver Dam, Wis., on all types of this company's ranges.

2088—Casement Window Fans. Edgar J. Wood Industries, Inc., 820-24 So. Pulaski Rd., Chicago 24, Ill., has put announced a new bulletin describing their line of home cooler window units.

2090—Fan and Blowers. A 12-page illustrated bulletin describing 1950 "Legal" installations, fans, ventilators, shutters and blowers is available from Cavalier & Dexter Mfg. Corp., 128-168 32nd St., Brooklyn 32, N. Y.

2092—Electric Housewares. A 16-page catalog folder (E-6-[illegible]) pictures and describes the Handybat line of 50 electric housewares, manufactured by Chicago Electric Mfg. Co., 6555 W. 65th St., Chicago 38, Ill.

2094—Shoreline Fans. C. & H. Air Conditioning Fan Co., Inc., Atlanta, Ga., has made available a 4-page illustrated folder describing their line of Shoreline fans.

2096—Emerson Fans. A new Emerson Electric comfort ventilating fan catalog, illustrating in color and describing in detail their complete line of fans for 1950, is offered by Emerson Electric Mfg. Co., St. Louis 21, Mo.

2098—Appliance Cords. Three illustrated folder sheets are now available from Dixie Mfg. Co., Plano, Ill., describing their appliance and set electric range connections and cord set designs.

2100—Chelsea Fans. A new illustrated catalog sheet, full information regarding all types and sizes of fans manufactured by Chelsea Fan & Blower Co., Inc., 1200 Grove St., Irvington, N. J.

2102—Ventilation Guide. Latest illustrated guide for the use of fans and shutters appears first in Ventmaster news. Ventmaster, 2-0 Eagle St., Rochester 2, N. Y.

2104—Attic Fans. The Iron Saint Blower fans are described in Bulletin No. A-150, containing detailed information. Hill and Hake Mfg. Co., 1345 Van Buren St., Indianapolis, Ind., announcing the folder available.

2106—Ventilating Fans. New outdoor appearance attic fans with complete details and illustrations have been released by Everlasting Electric Co., Warren, Ohio.

2108—Polar Breeze. Instruction and installation Manual covering the use and application of Evaporative Cooling equipment for all parts of the USA. The 12 page booklet tells the whole story of evaporative cooling and what it can do for LOW COST AIR CONDITIONING today.

2110—Ventilating Fans. Two new catalog sheets describing Types PAF and HVF Horizontal Vertaflow Fans are now available from Everlasting Electric Co., Warren, Ohio.

MANAGING SALESMEN

Salesmen's attitudes build a store's reputation

by C. Thomas

The appliance department at Foley's, in Houston, Texas, has found that it is much more pleasant — and profitable — to break in new men than change the bad habits of experienced salesmen. New men quickly learn that the prospect has two problems: which appliance is best for her, and where shall she buy it? These two salesmen, above, have been educated to give their customer the proper answer to the first question, and this in turn influences more prospects to answer the second question and trade at Foley's.

◆ THE FACT THAT major appliances are far from reaching the saturation point has been firmly established by Foley's Federated Department Store in Houston, Texas.

Foley's appliance department is located on the fifth floor. Hence, the department hasn't the advantage of the off-the-street traffic a groundfloor affords. And this raises a point of great interest. It is evident that an increasing number of people prefer to deal with Foley's; they make that extra effort, take those extra steps, in order to do so.

The major appliance manager has carefully built a sales organization of 20 men. When it is stated that he built his sales organization, it does not mean that he merely hired that many men. Every salesman came into the organization as a green, inexperienced appliance salesman! And there was a definite reason for this.

"Green" Salesmen Welcomed

"As far as we're concerned," said the manager, "there is only one way of selling appliances—*our way!* Experienced applicants carry over ideas they've accumulated, working here and there, which they can't, or won't, relinquish! Many of these ideas are built around tricky schemes. Or, in plain words, misrepresentation. Probably that's why they are looking for a job. But we won't tolerate it here! And we've found it much more pleasant to break in new men than change the bad habits of the experienced ones.

Applicants are first screened by the personnel office. Those who qualify are sent to the department manager. "And from these," said the manager, "only a very small per cent are selected for training."

The manager, before he goes further, weighs up the applicant for his personal appearance. The applicant must be neatly, not overly dressed. He must be carefully groomed, with a fresh hair cut and shave. His manner must be friendly and sincere. Courtesy must come without effort or affectedness.

If the applicant measures up on personal appearance, the manager wants to know what work he has been doing, the amount of money he's accustomed to earn-

ing, and the number of jobs he's held within the last few years. If he is the type who shifts from one job to another, the interview is immediately terminated.

If the applicant has made big money, this isn't the job for him.

"These men," said the manager, "stumbled into easy money. They're looking for a similar spot here. They are of the opinion they can make easy money the rest of their lives without hard work. And I am not the one to give them their first shock."

The manager wants young, serious fellows. "Take a raw recruit," said the manager, "one who's eager, train him properly, and after he has had a taste of the money our men make, there's no stopping him. He will respect his job and take all precautions to hold it!"

Detailed Training Program

The training program starts off with acquainting the new man with store procedure and store policy. Following his absorption of this, he is put on the floor alongside an experienced salesman. Here he learns how to close sales, and make clean sales.

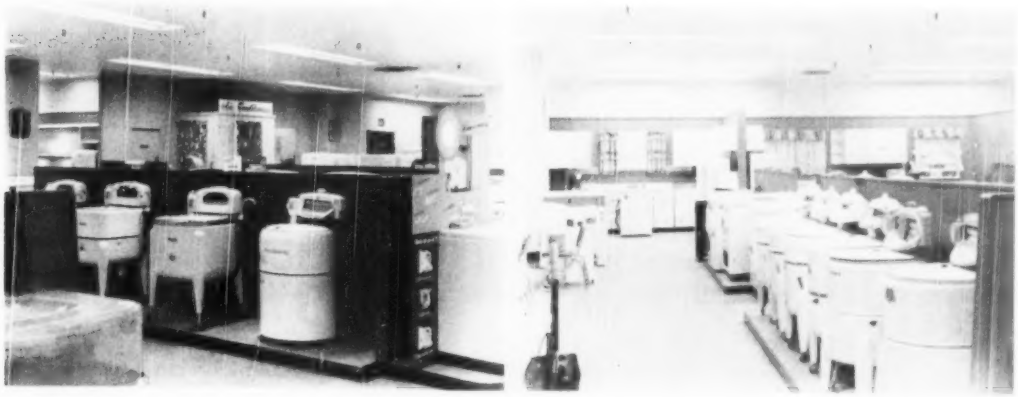
Discussion type sales meetings are held every morning for a period of 15 or 20 minutes. Special assistance is given those who need it by the manager.

Each man must attend the manufacturer's school for trainees. Here they are taught the bolt and nut phase of the merchandise they will sell, and learn to interpret this technical information into terminology the customer can understand.

The new man quickly learns that the appliance prospect is faced with two problems: (1) which appliance is best for me? (2) where shall I buy it? And, nine times out of 10, the second

(*Continued on page 106*)

Foley's appliance manager recently developed a device that transforms a washer into a portable unit, at a minimum cost. The ad above features this device. Below, left, is a view of the appliance department, and at right, down the aisle, is one of the portable washers attached to the kitchen sink. This device was a boon for washer sales, and salesmen's commissions as well.



DRIVEWAY DEMONSTRATIONS

. . Mobile unit proves as effective on city streets as country roads

◆ HOME APPLIANCE sales have been increased greatly by the Hough Home Equipment Co., 144 King Street, St. Augustine, Fla., through use of a house-to-house demonstrator truck which carries the products of seven nationally known manufacturers. Such mobile demonstration units have proved their value in rural areas, but this dealer's experience proves them to be just as practical for city use.

Actual washing of clothes and ironing are demonstrated in the unique truck which is driven into the driveway of a prospective customer. There water and electrical connections are made quickly, and dramatic demonstrations are given to the housewife and any neighbors she may invite.

G. S. Hough, enterprising owner of the home appliance retail sales concern, decided to put the mobile demonstration unit in operation when he noticed a small decline in buyers in his store. He now takes his goods to the buyers.

He chose a 12½-foot Dodge Route-Van truck with 462 cubic feet of display space to serve as the home appliance "store-on-wheels." This newly developed vehicle provides six-feet, four-inches of headroom for the display of kitchen cabinets above sinks, washers and ironers. Six feet of width also provide ample aisle space between the two rows of merchandise on display.

The "store-on-wheels" carries Norge appliances, two Bendix automatic home laundries and clothes driers, six wall cabinets and sinks made by Youngstown Kitchens, a New Home sewing machine, Kresky oil burners, an Iron-Rite ironer, and Zenith radio sets. Mr. Hough also plans to carry smaller items such as hand

Hough Home Equipment Company of St. Augustine, Fla., reports increased sales of home appliances from this house-to-house demonstration truck. Home appliances shown in the truck include a water heater, clothes drier, washing machines, electric ironer, a sink with running hot and cold water, and six wall cabinets. The store on wheels has a built-in water system and is wired for 110-volt current.

ironers, electric fans, portable electric heaters, toasters, and hair driers.

Salesmen for the company no longer wait for prospects to visit the downtown home appliance store. Instead, they drive the truck to the home of prospects both in the city and in surrounding areas and conduct actual demonstrations.

The truck has been equipped with a built-in water system, a heater which uses bottled gas, and a built-in electric system wired for 110-volt current. Water is supplied to the copper pipes within the truck by connecting an ordinary garden hose to the faucet which is available at the side of most homes. Likewise, the electric current is obtained through a long extension cord carried within the truck.

Housewives Furnish Utilities

Although salesmen offer to pay for the small amount of electric current and water which they use in demonstrations, most housewives are so fascinated by the demonstrator unit that they refuse payment.

Salesmen find it is much easier to gain an audience with housewives by driving the attractive "store-on-wheels" up to their homes than it is to knock at the front door and attempt to gain entrance with only literature to show. The truck is painted light cream and is kept washed and immaculate to present an appearance similar to the dream kitchen every housewife longs for. The fact that it attracts attention is proved by the large number of telephone calls received from those housewives who have read the invitation (Phone 1834 for Demonstrator) painted on the side of the truck.

Mr. Hough found that many housewives hesitate and are unable to make prompt decisions to buy when they enter his downtown store and see hundreds of things on display. Despite the smaller stock of merchandise carried within the mobile store, salesmen have the undivided attention of housewives during demonstrations in the truck and sell considerably more merchandise in a

(*Continued on page 105*)

Despite the smaller stock of merchandise carried within the mobile store, salesmen have the undivided attention of housewives during demonstrations in the truck, and sell considerably more merchandise in a shorter period of time compared with the downtown store. Salesman J. K. Getchell demonstrates one of the two washers installed in the house-to-house Dodge Route-Van truck operated by Hough Home Equipment Co., of St. Augustine, Fla. Housewives always are glad to supply the soiled clothes necessary for making a home demonstration.

THE FEMININE TOUCH

by Baron Creager

Salesmen's wives join the sales force . .

♦ A FRIEND was discussing the $4,000 owed to him for a year by a struggling business. The friend was enumerating mistakes by which this business practically paralyzed its working capital.

We ventured the opinion that in this case, one of the troubles is that competition is so tough.

"Of course it's tough," replied our friend airily, "but just tell me where it isn't tough."

He was right, of course; and we could not suggest any field of selling where competition isn't tough and getting tougher. But we do hold to the opinion, gained from observation, that competition is tougher and getting tougher faster in the field of retail major appliance selling.

When you can stop them and get them to relax and talk, sales managers of major appliance selling crews have that faraway look and the preoccupied air of a man who really isn't there. They will insist that there is absolutely nothing basically new under the sun in the technique of appliance selling. Yet they will confess to racking their brains in search of that something new. If they find it, they usually clam up. However, one sales manager didn't clam up, and maybe he has something.

This is in Oklahoma City in a large, aggressive department store of prestige. But it is conservative where publicity is concerned, so it goes unnamed here.

The sales manager of the appliance department is, of course, a veteran who knows all the angles. He must know the angles or he wouldn't be sales manager, for that kind of a store has to have volume. He runs the usual contests with the natural quirks and gets the usual results. In the quickening tempo of current competition he, too, is always looking for that something new. He believes that one idea that came out of the works will almost double his sales force, without the addition of personnel, and this is it:

He spread a dinner for his 22 salesmen and all the wives. After the food was disposed of he opened several soft, flannel cases, each of which contained a single setting of good silver service.

There were several patterns and the silver was passed around for examination by admiring wives. Each wife was asked to select the pattern she liked best. When this was done, the wives were advised that each would receive as a gift, one setting of the silver selected.

"Now, then," said the sales manager, "I'm going to tell you girls how you can get a complete service of that silver. You don't have to do a thing but get in behind your man."

Contest Details

Then the sales manager explained the details of a new contest with increased quotas. Addressing the wives, he continued:

"Every week that your man makes his quota in major appliances, you get a single setting of the silver of your choice. How much silver you get is up to you and your man. That's all there is to it."

In discussing his idea, the sales manager opined that it was unnecessary for him to go into detail as to what kind of a fire that would build under each married salesman.

"Just an idea," he said. "It occurred to me that we in retail selling are always emphasizing the appeal to women, so why not appeal to the women who are married to our salesmen? Why not, in effect, add them to the sales force? It's getting so tough that knowing all the old angles isn't enough. You have to keep coming up with new angles."

This sales manager operates under a handicap in that he cannot cash in on the tremendous traffic of this department store. The appliance department is independently located. To reach it, a customer who enters at the front must cross the store to its rear, then cross an open alley, pass through another half block of store and emerge on the street, from there the customer must turn half a block to the right, cross at a signal-lighted intersection, then turn half a block to the left. There is the appliance department.

But this sales manager manages to get a cut at store traffic by keeping some major appliance constantly on display at a selected point in the main store. When practical, there are demonstrations. And always, in an arrangement of relays among floor salesmen for the day, there is an eagle-eyed salesman waiting not 10 feet away for the spot display to stop a prospect. When that happens, he pounces.

The sales manager agreed that perhaps this is an idea not so new that it smells of paint. He has seen new ideas overworked, but he thinks this spot display idea, even if not so new, is underworked.

In this, we agree. We know of department stores with appliance departments on the fifth, seventh, or eighth floors, with never a major spot display on the main floor. True enough, the established customer with mind settled on a brand name, will seek out that department. But what about the power of suggestion, of impulse prospects, and customers who

(*Continued on page 104*)

SELECTING SALESMEN

. . Aptitude tests and training cut sales turnover to minimum

by Robert T. Dowd,

Manager,
Dowd's Radio & Electric Co.
Washington, D. C.

◆ Do you know a salesman when you see him? Perhaps you do, but at our store we have eliminated snap judgment and the "hit and miss" system of selecting men for sales jobs. We have found that, despite an expanding labor market, it is still hard to get good salesmen, and since the first of the year we have hired only those who have successfully passed our sales aptitude tests.

Our tests, prepared by the Personnel Institute of New York, were given to the six men on our selling staff recently. We found that they measured with remarkable accuracy the selling efficiency of the men we already had. Later experience has proved these tests equally accurate.

Our application form for salesmen is detailed. We want to know about the applicant's past jobs, about all his working experience, his habits, whether he has a bank account, what references he can give.

Then the applicant gets a diagnostic interview. The interviewer—Lester K. Shakelton, our sales manager, or William Berger, our sales promotion manager—asks questions about his work history, social history, and what he thinks of himself. As a result we learn if he mixes well and is aggressive and mature.

As a rule, we find, a good salesman is married; it is better if he has dependents; and his work experience and desires should point to a selling career. Previous selling experience in our field is not considered essential, as we get many applications from veterans whom we must train.

Passing these preliminary interviews, the applicant then receives three Personnel Institute tests to measure his personality, sales and mental abilities. Upon completion of these, we send the application form, the interview report forms, and the three tests to the Personnel Institute's New York office.

Systematic Training Course

If the Personnel Institute sends back a satisfactory grade and a highly favorable opinion, and if we are able to employ him at once, our applicant begins his training course. This is somewhat more elaborate than might be expected, and consists of three parts.

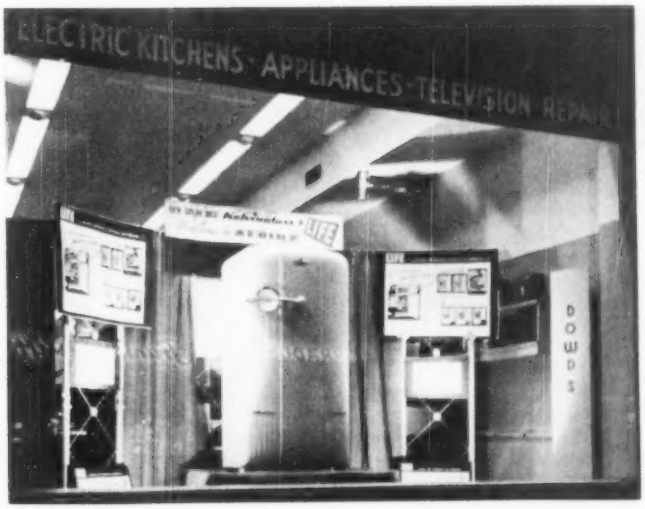
First, the new employee is put on the sales floor for several weeks, usually at the service desk, accepting and issuing appliances and radios for repair.

After this, he embarks upon an intensive sales training course developed by a manufacturer. This course is divided into two parts, the first part concerns how to sell, correct demonstration procedures, how to close a sale, how to make follow-up calls; the second part gives training in the selling features of all our products. We use slide films to advantage, and secure selling aid also from distributors.

Finally, the new employee becomes a junior salesman on the floor for about two months.

This basic training completed, the employee is assigned a territory according to postal zone boundaries—to eliminate arguments. The full-fledged salesman is expected to spend two or three hours daily making calls on customers and prospects living in his territory. The balance of the working day he works on the

(Continued on page 105)



The job of finding good salesmen is more than interviewing and running ads. Window displays such as this one of Dowd's Radio & Electric Co., Washington, D. C., along with attractive floor and point-of-sale displays, are likely to attract the type of salesman who can do a good selling job, for he takes pride in the merchandise he sells and the appearance of his surroundings.

PLANS TO SELL FANS

The sales season is short -- preliminaries should be thorough

◆ SELLING ATTIC and window fans requires the full usage of modern promotional techniques. People are becoming more and more "cool-conscious" every day. They like the cooling effect of air conditioning in the restaurants, theaters, department stores, and other commercial buildings they visit. They want something similar to provide cool comfort in their own homes. But they think the cost would be too high. They're not aware of the economical ways to beat summer heat.

It's up to you, the electrical dealer and contractor—in co-operation with the wholesaler and manufacturer—to enlighten the public as to the benefits of night cooling fans.

How Night Cooling Works

To refresh your memory, here's a brief review of the function of window and attic fans. As you know, during the day the hot summer sun beats down on the roof, raising the attic temperature to as high as 135 degrees. In turn, this heat is transferred throughout the entire house and remains far into the night.

When the sun goes down, outside temperatures go down too—from 15 to 25 degrees. But the house retains the stale, stuffy, hot daytime air, there usually being no breeze strong enough to dispel inside air.

Attic Fans

The attic fan gets at the source of the trouble: the attic. First, the fan exhausts all of the 120-degree air out of the attic. Then it draws out the daytime air still blanketing the home. In flows cool, fresh, outside night air, and soon the inside temperature drops to that of the outside. A constant supply of fresh, cool, healthful night air is assured since there is a complete air change every minute or two.

The window fan works in much the same manner. It exhausts hot, inside air out the window and draws in cool, night air through open windows at the other side of the house.

The attic fan is suitable for comparatively large homes; the window fan for small homes and apartments.

In selling night cooling fans you must remember two important differences of fans from other appliances: (1) fan sale is highly seasonal in nature; (2) fans are comfort providing rather than labor-saving.

Therefore, timing is very important. People don't buy fans after spending long months of careful consideration. They buy because they want relief from the heat. When the demand comes, it comes fast and heavy. If you aren't stocked up then, you'll lose the chance for high profits.

But, first having the fans on hand at the proper time is not enough. You've got to let the public know that *you* have the inexpensive way to relieve their hot weather comfort.

That's where promotion comes in. Here are the ways to promote your fans for higher profits:

Seven Promotion Methods

1. **Fan display in the show window.** Remember, the prospect has got to see them before you can sell them. And displays have been proven very effective in drawing people into your store. Displays of some type can usually be obtained from the manufacturer of your night cooling fans. They should show graphically how easily the fan cools the house, and are an important sales help.

2. **Inside - the - store demonstrator.** After they have been attracted by the outer display, you should have a set-up which shows first how the fan works and just what it does. Such a display should have a three-fold purpose, acting as an eyecatcher on your floor, a demonstration center, and a sales center. Again, the manufacturer will be glad to aid you.

3. **Handout pieces.** Manufacturers will supply you with promotional literature which you can pass out to customers in the store. These handouts explain further the workings and benefits of fans and serve as a reminder in the home that comfort waits in your store.

4. **Direct mail.** Arrange your customer lists in the order of those most likely to buy, concentrating on the middle and upper income groups. Write them letters explaining the benefits of night cooling fans. Ask them to visit your store or—even better—give them a way to contact you easily. Do this by stressing your phone number or by including a self-addressed post card. When they answer, visit their homes, figure out their cooling problems, and give them the answer to it. Remember, once inside the home, you may not only sell them an attic or window fan—a dealer may notice the need for other electrical appliances, the contractor may discover needs for additional electrical works.

5. **Personal solicitation.** After having arranged your old customers according to who are the best prospects, it would be a good idea to visit those personally at the top of the list. Or, you may want to have a man going door-to-door. It can be very effective during the season. Know installation techniques so that you can clearly present the answer to their cooling-question.

6. **Newspaper advertisements.** Manufacturers have dealer mats and electros already made up. Just ask for them and you'll get

them—usually free of charge—for insertion in the local newspapers. Again, provide an easy means for them to reach you—and be sure to stress immediate delivery and installation and the important benefits.

7. **Radio spot announcements.** Even short spot announcements are effective because they catch the homeowner in his misery. Again, stress your phone number. Get him while he's hot. Don't waste words on a radio commercial. Get right to the point. Here's a sample: "Sweltering? We've got the answer. A 'Cool-Um Off' Window Fan for only $. No money down, easy payments. Call now and be cool tonight. Installation within the hour."

Selling the Prospect

In order to sell effectively, the retailer must know the 1950 features of his attic and window fans. He must know how each prospect can get the most efficient use from his fans. He must be well supplied with promotional material. And he must be sure to receive all notices of newspaper, magazine, and radio advertising by the manufacturer.

Selling Appeal

The selling appeal should be centered upon three main points:

1. The *Comfort* to be derived from having a cooler house.

2. The improved *Health* of everyone in the household—because of cool refreshing sleep in fresh healthful air.

3. The *Preservation* of the dwelling due to moisture elimination.

If the home is suitable for attic fans, sell him with these points:

1. The attic fan gets rid of daytime heat from the *whole house*, thus providing cool comfort.

2. The attic fan provides a definite air movement which cools by drying perspiration, yet does not create unhealthful drafts.

3. The attic fan provides for better health because it assures refreshing healthful sleep.

4. The attic fan stops mousture-spread—so common during hot summer—by lowering the humidity. By stopping the spread of mousture, the fan prevents fungus growth and decay which shortens the life of the dwelling.

5. The attic fan can be used periodically in cooler months to remove stale air from the house in a few minutes. It is effective in removing "after-party" air, making smoke-laden air clean again.

6. It is economical in the long run since it lasts for many years and costs only a few pennies daily to operate.

7. Being in the attic, it is almost out of sight and it will not require much change in the decorating scheme.

8. Quiet operation is assured because of its out-of-the-way location.

9. Since it is a permanent installation, it can be FHA financed with terms of only 10 per cent down and 12, 18, 24, or 36 months to pay at 5 per cent interest.

10. Since insulation merely retards but does not stop the transmission of heat, the attic fan is needed even in insulated buildings.

Window Fans

If the prospect's home is not suited for an attic fan—if it is a small home or an apartment—there is always the window fan. Use the following points in selling the window fan:

1. It might cools up to four or five rooms.

2. It is low-priced and it costs only pennies to operate.

3. It has a slow-moving, therefore quiet, blade.

4. It is portable, can be moved easily.

5. It is easily installed—by the homeowner himself—by following simple directions.

6. Its cooling at night leaves the house cooler during the day.

7. It is adjustable to various window sizes because it is equipped with brackets and spacers.

Remember, every prospect has the need for some type of night cooling fans—and there is a fan to satisfy that need. Remember also, that you not only profit from immediate sales, but you're better known for future sales.

The Fan Season Is *Here!*

A large part of the year's business in attic and window fans is crowded into a short selling season.

The first requirement for a dealer to get his share of this business is to have the fans in stock. Some advance planning and estimating of sales potential is required in order to be assured of ample stocks of the best fans when the selling starts in earnest.

With the merchandise in hand, the No. 2 problem becomes that of letting the public know that *you* have them and can install them on short notice. Here are the means most successfully used by others:

1. Fan displays in your windows—with action if possible.

2. Inside-the-store demonstrator to back up the window display that brings the prospect inside.

3. Handout pieces with your store name, address and phone number, as a reminder for the undecided prospect.

4. Direct mail concentrated on your best prospects, including an easy means for them to contact you.

5. Personal solicitation—always effective.

6. Newspaper advertisements—reaches large numbers of people.

7. Radio spot announcements — effective because they catch the homeowner in his misery.

Finally, make certain *now* that your salesmen are well versed in the sales appeal for attic and window fans.

TELEVISION SERVICING

. . *Coupon book eliminates bad features of arbitrary television service charges*

by Albert S. Keshen

◆ THE PROBLEM of overcoming customer resistance to a forced service overcharge when buying their television set and subsequently incurring ill will when the amount of calls paid for in such anticipation does not materialize, has been solved by Ward Radios, Television, and Appliances, 8535 Georgia Ave., of Silver Spring, Md.

This dealer issues a book of seven coupons with every sale, each of which is good for a service call within a year. Costs for the book range from $22 for a 10-inch set, $45 for a 12-inch, and $60 for a 16-inch. Its purchase is optional with the customer.

At the left of this picture showing the main showroom of Ward Radios, Television, and Appliances, Silver Spring, Md., is a stairway leading down to the basement where records are sold and the maintenance and service departments are housed.

Coupons Refundable

Every time the serviceman makes a call, he picks up a coupon as payment. If the customer does not use all of the coupons, he is given a rebate of $4 for each one turned in a year after the sale, or $28 if the entire book is unused, such payment to be made either in cash or to be applied to next year's policy, as preferred. Should yearly visits by repairmen exceed the number of coupons,

(Left) The service section in the basement is equipped with three work benches, each supplied with about $1,000 worth of testers and accessories. On the bench shelves are the latest work manuals, and swinging overhead lights make precision work less tiresome on the eyes. (Right, above) This section of steel bins is used for storing sets and parts. Set up by the mechanics, they have been found to be more advantageous than wood since they are flexible, durable, and easier to keep free of dust. (Right, below) Newspaper advertising is utilized once a week. Reprints of ads are sent out after each insertion to a list of 5,000 names.

there is no additional charge.

Advantage of System

"The advantages for the dealer under such an arrangement are three-fold," points out Robert Miller, co-manager. "First, it saves us nuisance calls. If a woman's screen is flickering and she becomes panicy, she will try to have it readjusted herself instead of running to the telephone for a serviceman, since she realizes that by keeping cool she may save herself $4.

"Secondly, it leads to greater customer satisfaction. He's buying insurance and knows that he will get a dividend for saving the underwriter time and expense just as it works out, perhaps, with his automobile policy or any other coverage which he may hold.

"Third, it leads to repeat business. If there are any left-over coupons, the customer will keep them in his strong box for use next year, in most cases, or for the replacement set he may want to get later."

Under the prevalent system of forced service payment with each set sold, Mr. Miller points out, the buyer is really paying for the other fellow's "headache," according to the table worked out. This leads to confusion on the part of the purchaser who, although left with the option of buying the service plan and resentful of the higher cost, realizes that he may need his "house doctor" at sometime or other.

"Such ill will is left with us dealers at the point-of-sale contact," declared Mr. Miller. "I believe that while a merchant

Location and architectural features of Ward's have contributed heavily toward building up store traffic. These are accentuated by plenty of neon signs indicating national brands available.

should include free 90-day service, there should be some provision made for the customer who doesn't take up our time and effort, and this coupon plan is our answer. Furthermore, it provides a double indemnity on the contract form signed with every purchase."

Records for service business are made in the office on yellow cards which stand out from regular blue cards used for registration and installation. Every time a coupon book is issued, its number together with name, address, type of set sold, and salesman is recorded. This system gives an immediate account of the step-by-step progress of each book.

No Customer Inconvenience

In the event a serviceman calls at the home and the lady of the house finds that she is unable to locate her coupon book, the serviceman, like a good Boy Scout, is prepared. He takes out a blank call ticket form from his pocket. On it is rubber-stamped "Coupon Customer." The woman signs and is given a stub for her records.

This coupon plan has resulted in telephone inquiries from interested persons outside of the store's trading area. Although their requests for service are courteously turned down when it is explained that only direct store purchasers are eligible, in many cases it has led to subsequent sales and brought in a class of trade which might not have come in otherwise.

A stepped-up installation and repair service moves hand in hand with this customer satisfaction plan. The maintenance department in the basement is equipped with all of the latest test sets, dispensing with most of the obsolete tools with which this fast-growing industry has found itself overburdened in recent years. It is in full view of the customer, many of whom come downstairs to purchase parts for which a complete inventory is kept.

"We went to a great deal of time and trouble to keep our workroom hitting on all cylinders," said Armor Friend, co-owner with Mr. Miller. "It costs us an average of about $1,000 to keep one man's bench fully supplied with all of the four machines and accessories that he needs, but this expense has been well justified in the volume we've been able to build up."

Steel Part Bins

Another handy time-saver in the workroom is the bins of 24-inch steel which provide ample space to keep sets and parts. They were put into place by the mechanics early this year after the firm suffered a disastrous fire which gutted the premises. It was learned then that steel bins have the advantage over wood in that they are cheaper, durable, and more flexible in arrangement, and can be cleaned faster and more satisfactorily. They also require no repainting.

A crew of three mechanics is employed inside. They are supplemented by four men on the outside who use three trucks and service cars for fast calls to any part of Montgomery County or the adjacent District of Columbia. In fact, the firm's chief ace-in-the-hole is its service department which insures television installation 24 hours after the order is taken, with equally prompt maintenance attention.

The men operate on a 40-hour schedule in a six-day week with no night calls, although there is a night shift working in the shop. It is estimated that about four television service calls are handled during a normal day.

"The expense of conducting a well-rounded maintenance department with its self-operating television installation service has brought us other highly satisfactory results," said Mr. Miller. "It enables us not only to keep control of our work, but to give our patrons a personalized service and direct contact. This benefit is highly valuable in the smaller communities, such as ours, where in most cases the store employees are personally known to the customers."

Peak Buying Seasons

Ward's fast installation and equally prompt service is highly effective also at peak buying seasons when an outstanding sporting or political event, or some other affair high in news value impels many customers who are on the fence regarding their choice to make immediate selection with the hope that their set will be in their home in time for them to tune in on the dramatic affairs about to take place.

This type of alert merchandising procedure calls also for a triple-barreled promotion campaign to bring its message home to prospective customers. The store devotes at least 5 per cent of its annual volume for this purpose.

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BRANCH OPERATIONS

Separate stores in six communities created by department store . .

◆ TAKING A COMPLETE appliance sales and service organization to the small-town customer, instead of waiting for him to visit a central city, is a policy developed by Montgomery Fair, Montgomery, Ala., which led to a sales volume of over one million dollars in 1949.

While the Montgomery store qualifies basically as a department store, its appliance merchandising operations since the end of the war have grown so sharply that this section is run on almost an entirely separate basis—with separate stores, operated by their own managers and sales crews, as well as the large basement appliance showroom at Commerce and Montgomery Street in the Alabama capital.

Small-Town Potential

Unlike many appliance merchandisers who "waded into" the appliance field gingerly in 1946, due to restricted deliveries, short supplies, etc., the management of the Montgomery Fair organization, headed at that time by E. A. Cosgrove, realized a tremendous potential, not only in the city of Montgomery, but in surrounding small towns, all of which are extremely prosperous due to the government's agricultural encouragement programs, rural electrification progress, etc.

Therefore, beginning in the period immediately preceding the end of the war, Montgomery Fair set a precedent in southern appliance merchandising by setting up stores complete in themselves in small communities throughout the state. While it was felt possible to merely wait for customers from these cities to visit Montgomery, and order appliances to be shipped by freight, the amount of competition offered by mail order houses, etc., was felt sufficient reason to take the store to the customer instead, according to J. C. Henry, major appliance buyer, who heads the huge project.

How the Plan Works

Under the plan, a small retail store or shop building in each of six cities has been converted into a complete appliance sales and service organization with a manager, a crew of outside salesmen, and service mechanics, the number of which is dependent in each case upon the size of the community. Where possible, the Montgomery Fair organization has attempted to select its manager and salesmen from local talent, on the theory that young men, who know most of the neighbors and have been members of the community for many years, could more quickly build up sales volume.

In practice, this has been difficult to accomplish, according to Mr. Henry, inasmuch as it has been difficult to find personnel with the proper qualifications in most of the small towns.

"We have learned that we cannot always find a good salesman, with a knowledge of appliances or the right capabilities for training," he explained. "Therefore, we have operated the personnel end of the problem by setting up a training school at one of our larger stores, utilizing a manager who has a decided flare for training specialty appliance salesmen, as an instructor. In this way, managers for each of the stores are trained, and quickly absorb the specific traits which are required for a particular community. However, we have been successful in developing specialty salesmen from young men in each community."

As it stands today, Montgomery Fair's decentralized appliance sales organization is operating stores in Florence, Anniston, Greenville, Andalusia, Tuskegee, and Tallassee, Ala. A seventh store, which will be one of the largest branch stores to be set up, is soon to be opened in Gadsden, Ala., in the southern part of the state.

"The theory has worked out well in selling to the small community," Mr. Henry said. "Invariably, we found, residents of small communities, with lighter taxes, general higher prosperity level, make excellent prospects for anything all the way from a complete package kitchen down to individual appliances. There are many older houses in the community, which require remodeling, and our appliance stores have fitted well into this market."

Organizational Plan

Each manager of the small-town stores is set up in business for himself to the extent that each may choose his own salesmen and has authority to arrange for individual compensation, service rates, etc., to match the community. Each man likewise operates the service organization, budgets his own advertising, and is in charge of his own warehouse, with appliances ordered through the central headquarters in Montgomery shipped directly to each store. Each sales manager is on a salary and percentage basis, which was chosen by the manager himself, and is directly rewarded for effort in making outside evening calls, for demonstrations, etc., which help to create sales. Likewise, the manager may set up a salary and drawing account, straight commission plan, etc., for paying the salesmen in his own store. The number of salesmen range from only one salesman in the smaller cities up to three in larger towns such as Anniston and Gadsden.

One of the most important features, Mr. Henry has found, is the fact that each of the stores maintains its own service. "The day

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MERCHANDISING PLANT

Complete services, specialists sell a year-round market

◆ AN APPLIANCE dealership organized to attract hundreds of women weekly is the new Billings Appliances, Inc., completed last year at 3361 S.W. 3rd Ave., Miami, Fla.

The new Billings organization is one of the largest appliance stores in the "vacation state," with more than 6,000 square feet of space, a 100-foot all-glass front facing on busy Coral Way, a 50x100-foot parking place, attractive lounges for prospects, and most important, a 100-seat auditorium, which is filled up daily with actual "hot prospects."

Construction of Store

Earl Billings, head of the organization, deliberately waited until the "cream period" was over before starting construction of his impressive appliance salesrooms.

"In the past, appliance competition was composed of anybody who could deliver a new refrigerator, range, or washing machine," he said.

"Under current conditions, however, it is the appliance dealer with a well-organized service department capable of handling trade-ins on all major appliances, an attractive cooking school system, air-conditioned atmosphere, and sound, reliable lines, who will sell the market. We're prepared with all of these basic requirements, and in addition a lot of innovations."

Billings Appliances, Inc., is a complete electrical dealership, with full lines of small appliances, a large separated television department, radio and appliance repairs, installation department, and all other essential features. Billings drew on a wealth of experience in the management of the Earl Billings Music Company, retailing records, musical instruments, radios, etc., through southern Florida, in designing his current "merchandising plant."

In addition, he had the advice of Juan Rodriques Pou, president of a large building materials dealership in Puerto Rico, and now a partner of the firm as well. Both men are veterans in the sales field, as is Bob White, sales manager, who before joining Billings Appliances, Inc., was merchandise manager of the home furnishings department of Maas Bros., in Tampa, Fla.

Here are the points absolutely essential in competing in the buyer's market as Billings lists them:

1. Service department, including reconditioning and appearance refinishing facilities for refrigerators, washing machines, ranges, and small appliances;

2. A really effective educational program, designed to bring housewives in large numbers into the building on a daily basis;

3. Departmentalized display of each appliance line, so that the prospect interested in one type of appliance will not be distracted by displays of others; and

4. Personnel composed entirely of specialists, with one full-time expert in charge of each service or selling department, and entirely responsible for stock, promotion, greeting the public, and other details.

Store Layout

Each of these points is answered in the layout of the new Billings store. For example, at the rear of the building is a completely equipped machine shop, parts store room, and work space for reconditioning trade-in refrigerators. Salesmen are authorized to make their own trade-in allowances, with special training on the subject, and all incoming trade-ins are completely rebuilt, worn parts replaced, refinished, and sold through the service department, to pave the way for clear profits on new appliance sales.

The store gives a guarantee averaging one year on each trade-in refrigerator, and reports that an excellent market for the rebuilts is soaking up trade-ins as fast as they are received. Like most progressively minded dealers, Billings is willing to break even on trade-ins if necessary; to date, however, all rebuilts have shown a small, but consistent profit.

Traffic Building Features

Next, to attract large numbers of housewife prospects, the store incorporates a lot of traffic building features. First, behind the 100-foot front are four complete model kitchens each offered at a flat over-all price, and ranging from glamorous, 12-unit types down to apartment kitchens containing minimum-sized range, washing machine, refrigerator, sink, and overhead cabinets. All four are arranged for active demonstration, and each can actually turn out food, expertly cooked, when desired. In combination with the kitchen display, Billings Appliances, Inc., employs Mrs. Caroline Waters, home economist who operates all demonstrations and cooking schools, and Miss Virginia Ryan, trained in kitchen design and installation, who offers complete kitchen planning service. Sales have so far surpassed expectations that two more model kitchens are to be added, and the store is "up to its neck" in new kitchen installations.

Billings Appliances, Inc., will design new installations, plan the removal of old fixtures, walls, etc., and handle the entire installation from painting to plumbing. With a full-time home economist, and full-time kitchen-planner on duty, there is no reason why Billings Appliances, Inc., cannot meet the needs of any homeowner in search of a modern kitchen, according to Billings.

(Continued on page 103)

One of the best known retailers in Missouri, "Hot Syrup" Hanley, of Maplewood, believes in a stunt-filled merchandising program. The huge sign on the side of his store has his nickname, "Hot Syrup," in letters four feet high beside a caricature of Hanley. People often stroll into the store to find out where he got that name — and eventually end up signing an order for an appliance!

KEEP IT COLORFUL

The carnival atmosphere is the way to a profitable volume . .

♦ Too much of the "color" represented by eye-opening stunts has gone out of everyday appliance merchandising, according to N. D. "Hot Syrup" Hanley, head of Hanley & Co., appliance dealers in Maplewood, Mo.

Ask any resident of South St. Louis's huge residential districts who sells the biggest chunk of the community's refrigerators, and the answer's likely to be, "Why, that Hanley fellow, of course." Even the youngsters in the street know "Hot Syrup" as their host for a long string of attention attracting events. N. D. Hanley is one appliance dealer who believes that the carnival atmosphere, the barker, and plenty of newspaper publicity is the way to a profitable volume. The sale of 425 refrigerators alone, in a small shopping district far outside the St. Louis city limits would tend to prove him right.

"Hot Syrup," who picked his odd nickname from a radio broadcast back in 1945, has been an appliance dealer only since the end of the war, after more than 18 years with General Motors as a traveling executive. "I got tired of traveling," is the way he explains his entry into the appliance field. Finding a small store on Sutton Place open in the Maplewood suburb, he started off on a

(Left) Telephone selling has become a big part of the Hanley operations. Two telephone salesgirls spend most of the day phoning new brides, and offering to send a salesman out. (Right) The basement storage room can be converted into a cooking school auditorium. Hanley keeps real food in all of his basement kitchen refrigerators.

In a typical Hanley promotion, he placed three floats in a parade down a busy St. Louis street. One of the floats was a half-ton pickup truck in which a colored mammy, dressed Aunt Jemima style, was frying hotcakes on a range as the truck toured the parade route.

colorful, stunt-filled merchandising program.

Hanley thinks that the "wheel that squeaks the loudest gets the most grease," and thus, he has been squeaking loudly with one type of novel promotion after another during the past five years. A big, burly individual with an infectious grin, long used to big-ticket selling as an automobile executive, he frequently puts on promotions with novel ideas few local homeowners can forget.

Definitely not a carbon copy of Los Angeles' Madman Muntz, Hanley has nevertheless parlayed his "Hot Syrup" nickname into a powerful selling asset. A lot of people stroll into his new store on Manchester Boulevard, "just to find out where you got that name"—and wind up signing an order blank for a new refrigerator.

Promotional Stunts

His stunt career started out back in 1945, when Hanley heard that the Bettendorf Supermarket nearby was offering prizes to St. Louisans for the best letters on "Why I Shop At Bettendorf's." This looked like a fine opportunity to Hanley, who immediately got in touch with the supermarket operators, and offered to add some handsome appliance prizes, in return for a display on the supermarket floor. The owners agreed, with the result that a dozen Hanley appliances were pyramided in the middle of the supermarket, all blazoning the Hanley name, with many thousands of local residents per week exposed to the show. A home economist demonstrated all of them, and the portly dealer still believes that, "I got more out of the stunt than the supermarket."

A little later, long before any of the later national drives had begun, "Hot Syrup" staged his Old Washer Roundup, the local papers giving him hundreds of dollars worth of publicity when he advised that he would give a brand new machine for the oldest washer in St. Louis. Some 400 old machines came out of basements to parade through the Hanley windows, and the winner, an elderly widow, was much photographed with dealer Hanley for both community and city newspapers. Hanley spent several months on that stunt, and got more than 3,000 lines in St. Louis papers as "free advertising."

Sales Management

Within a year, "Hot Syrup" and "appliances" were synonymous in Maplewood, and Hanley had put on a staff of 10 outside salesmen. He foresaw the future and turnover problems accurately, and did away with these in advance, by putting every one of his employees on a profit sharing basis, whereby each gets a toothsome bonus yearly on percentage, shared from the store's gross profits. Thus the same faces and the same

A sign on the back of the touring truck indicated that the range was actually cooking as it moved, and invited people watching the parade to "Follow this Truck to the H. D. Hanley Company — and Enjoy a Free Sandwich Cooked in the Oven!"

cheery, first-person greetings are coming out of Hanley's as they did in 1946.

Not long after the Old Washer Roundup, Hanley hit upon a telephone selling idea which has been in constant operation ever since. He hired two pleasant voiced telephone salesgirls who spend most of the day telephoning new brides, whose marriages are announced in St. Louis papers, and offering to send a salesman out. Every new bride who can be reached by phone gets a call from Hanley's as a result, and the huge pile of sales resulting shows the wisdom of the plan. Hanley often gets on the phone himself, gives the bride some stentorian congratulations, offers her a gift, and bets her she will visit the store within a week. He usually wins!

Neighborhood Displays

Needless to say, there is a flashy Hanley display at every home show, county fair, public picnics, etc. He uses public address systems and music to attract attention, and passes out prospect cards to be signed by the hundreds. "Gotta keep the salesmen supplied with contacts," he grins at each housewife. Hearing that several had attempted to phone in, he installed no less than 10 telephones and five trunk line circuits in his store, so that there is never a busy signal to affront a possible customer, or keep his telephone salesgirls off duty.

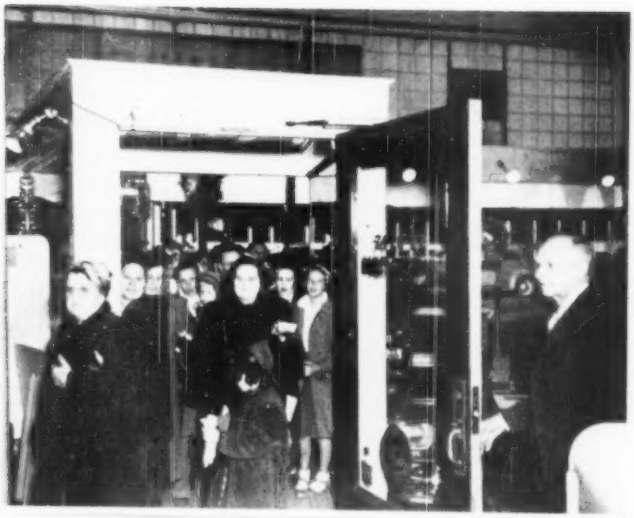
"Mystery Tune" Show

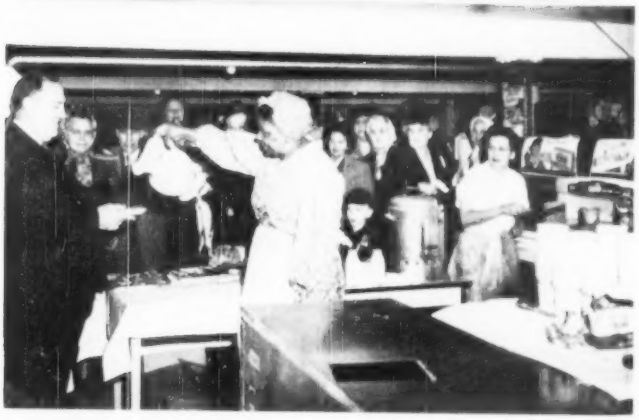
When the first national "mystery tune" shows hit the air, Hanley was only two days behind in setting up his own. He put it on the air daily, inviting guessers at a little-known tune to call in by phone, and receive a 52 piece ruby glass set for the right answer. Next he began giving out $10 gift certificates, daily, on the same basis, until he felt there were too many such shows, and dropped the program.

To interest the public in his big service department, Hanley drew the attention of every dealer in St. Louis, when he came out with a novel "loan out offer," in which full-page ads invited St. Louis housewives to send their old boxes in for a complete overhaul, in return for which "Hot Syrup" would furnish them with a brand new one to use during the overhaul period. Needless to say, this attracted a lot of attention, resulted in a stream of deliveries in every direction, and a bit of apprehension on the part of the distributor. All his timidity vanished when Hanley exhibited the books, for 97 out of 100 refrigerators put out on this "loan" basis stuck in the home, and were purchased by their users. The dealer plans to use this one again and again, as the most successful single stunt he's ever put over.

Early this year, he placed three floats in a parade down Manchester Ave., one of St. Louis busiest. One of the floats was a half-ton pickup truck, with a range, pitchers of batter, and a colored mammy, dressed Aunt Jemima style, frying hotcakes as the truck toured the parade route. A sign on the back indicated that the range was actually cooking as it moved, and invited St. Louisans to "Follow this Truck to the H. D. Han-

(Continued on page 102)





(Top) The parade promotion brought in hundreds of women, and sold more ranges for "Hot Syrup" than a week of full-page newspaper ads, Hanley believes. (Bottom) For two weeks after the parade, "Hot Syrup" capitalized on this promotional idea by having the truck roam the residential districts with Aunt Jemima in the flatbed, cooking away.

News Roundup

Sales-Aid Kit to Boost Fan Sales

♦ A SPECIAL Electric Fan Sales-Aid Kit is being offered to dealers by the Electric Fan Section, National Electrical Manufacturers Assn., 155 East 44th St., New York, N. Y. This kit includes two copies of the Section's new 16-page manual—"Fans for Year 'Round Comfort" — also fifty copies of a 4-page consumer folder, "Electric Fans for Your Comfort." The kit is priced at $1.

The manual is an ideal text book for the training of salesmen on electric fans and their use. It is one of the most complete of its kind ever prepared, covering the history of fans from the earliest days, the operation of electric fans, how they circulate the air in a room. Suggestions are given on how to choose the proper size and type of fan for a given space, and how best to use it for maximum efficiency.

Among the many interesting features of this manual are its detailed instructions on the use of electric fans not only in hot weather, but for year 'round comfort. It shows the user can make fans a part of modern living.

Explained, for example, is the "why" and "how" of the effect of air in motion in both cooling the house in summer, and helping the uniform distribution of heat in winter. Many other practical uses for fans are described—uses which the average person has probably never even thought of.

One very important use is to help heat homes better, by preventing the stratification of air in rooms, preventing a layer of heated air at the ceiling and cold air at floor level.

Other interesting suggestions include the use of fans to keep the house free of odors through ventilation; the prevention of mustiness and dampness in basements and closets through use of electric fans to exhaust stale air; the cooling of cooked foods before placing them in the refrigerator, and for faster thawing of frozen foods before cooking. There are even suggestions as to how to use a fan to speed up the drying of laundry indoors during inclement weather.

Memphis Dealers Name New Officers

♦ VETERAN appliance dealer C. D. Akers, Jr., of C. D. Akers & Son Hardware Company, has been elected president of the Memphis Retail Appliance Dealers' Association.

Mr. Akers, whose small hardware store in the Lamar section of Memphis sells one of the South's largest volumes of refrigerators, was installed in the new office at a formal dinner meeting at the Hotel Claridge in Memphis. Other officers elected include J. H. Morris, vice-president, Charles Hendricks, re-elected secretary, and B. J. Gruber, secretary-treasurer. New members of the board of directors include L. E. Gatlin, George Bates, William Wolf, James Archard, Roy Sanford, J. B. Witten, and Sam Hollis.

One of the association's 1950 projects is to standardize trade-in allowances and reselling methods, to prevent "runaway" allowances which have amounted to price cutting in many other cities.

Easy Dealers Get Display Contest

♦ A NATIONWIDE $15,500 Window Display Contest for all Easy dealers has been announced by Easy Washing Machine Corp., Syracuse, N. Y. The contest is to run from June 12 through June 24.

Homer W. Reeve, vice-president in charge of sales in announcing the contest stated, "We expect this $15,500 Window Display Contest to repeat our 1949 success. Last year's co-ordinated June Promotion, spearheaded by a Window Display Contest, stimulated Easy sales for dealers everywhere. We hope that this year's promotion will be even more successful."

The promotion features the theme—"Tied Down By Big Summer Washdays?—Get Your Easy Now!" This theme will be featured in a 13-piece window dis-

CHATTANOOGA ELECTRIC SHOW — More than 85,000 people visited Chattanooga's Electric Show — 1950, in Memorial Auditorium during the five-day run April 24-28, inclusive. This show is an annual feature of Electrical Week jointly sponsored by the Electric League and the Electric Power Board of Chattanooga, Tenn.

"The THRIFTY buy in '50"

CHILL CHEST

Now LARGER CAPACITY IN LESS SPACE

New LOWER PRICE PER CUBIC FOOT

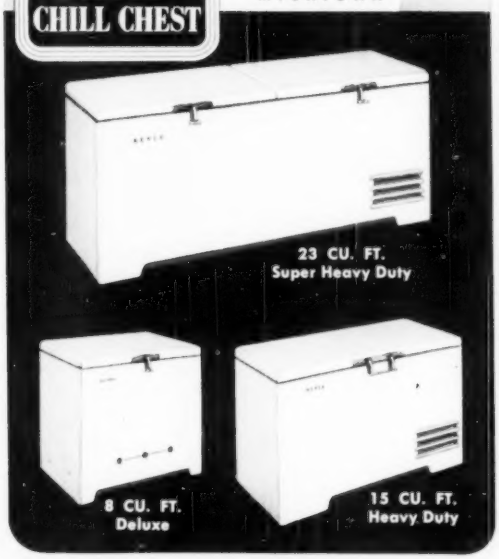
The CHILL CHEST Line offers you many advantages over other home Food-Freezers! The 8, 15 and 23 cubic foot CHILL CHESTS . . . advanced in design and engineering features . . . give big food storage capacity. They are no larger outside than most 6, 12 and 20 cubic foot freezer cabinets. Priced to compete with these smaller sizes, CHILL CHEST gives you a distinct Sales advantage — Lower Price per cubic foot!

Get all the details Now about the 1950 CHILL CHEST PROGRAM.

Wire, Phone or Write to:

REVCO, INC.
DEERFIELD
MICHIGAN

Revco CHILL CHEST



Here Is Something NEW under the Sun . . .

Attic fan performance at 1/2 the cost! . . . with the NEW Koolmaster Awning Fan

U. S. Pat. No. 2247576

The NEW Koolmaster* Awning Fan offers a chance to retail complete home ventilating for less than $100.00—with a bigger margin of profit for the dealer.

It means ventilating for more homes — at the average home owner's price level, with easy installation (only a screw-driver and wrench are necessary for quick assembly).

It means — quicker sales and more profits for the dealer.

It means — less mess and bother — the Koolmaster Awning Fan is a package unit. Ships flat — at 40 lbs. No more storage problems.

The Koolmaster Awning Fan offers extra protection against the sun with its aluminum housing. Runs quietly, on rubber mounting, for a few cents a day. Doesn't disturb the appearance of the room — fits to outside of house. No more altering or defacing building.

Exhausts through upper half of window and downward on outside of house.

Doesn't disturb the appearance of the room.

Specifications

- 24" exhaust type fan with Torrington "Verified" blades.
- Width of housing 33½"—will accommodate itself to windows 28", 30", 33" or 36" wide.
- Ball bearing fan shaft bearings.
- 5000 C. F. M.
- ¼ H. P. heavy duty vertical shaft motor.

*Registered Trade Mark

Write today for complete information — Dept. ES

AIR EQUIPMENT CO.

1713 West Carroll Avenue Chicago, Illinois

56 years of experience and progressive management

play package which Easy dealers will receive free of charge for entering the contest. As in 1949, the promotion will be supported with national magazine and newspaper tie-in campaigns.

106 Easy dealers will win cash prizes running as high as $800. Dealers compete in two separate store classifications in each of ten geographical zones of competition. In Classification I, department stores, furniture stores and utilities compete for: 1st prize, $300; 2nd prize, $200; 3rd prize, $100; 4th prize, $50; and 5th prize, $25. In Classification II, appliance stores, hardware stores and all others compete for: 1st prize, $300; 2nd prize, $200; 3rd prize, $100; 4th prize, $50; 5th prize, $25. In addition, national prizes will be awarded to the best windows in both Classification I and II as follows: 1st prize, $500; 2nd prize, $300; 3rd prize, $200.

Mitchell Enters Television Field

◆ THE ENTRY of the Mitchell Manufacturing Company, of Chicago, Ill., into the television field has been announced by Bernard A. Mitchell, president of that company.

Long a leader in the lighting fixture field, and since the war a dominant factor in the room air conditioner industry, this will be Mitchell's first step into the television field. This is not, however, their first electronic instrument, their "Lullaby" bed lamp radio and "Lumitone" table lamp radio having been widely sold for years.

According to Mr. Mitchell, his company plans concentrating its entire production on one model for the present. This T-16 will be offered in two consolette cabinets, blonde and mahogany, thus simplifying the inventory problems for both distributor and dealer. Delivery will start about June 1, 1950.

The Mitchell set will have 19 tubes including a 16-inch rectangular "black face" cathode picture tube. This newest style of picture tube will insure Mitchell users of a picture that is exactly as cast with no distortion and no lost areas. In addition, this set will

Only one model television set will be offered by Mitchell at the start. The 16-inch rectangular tube set shown here is available in blonde and mahogany.

feature one-knob continuous tuning, built-in aerial, inter-carrier sound with radio detector, A.C. power transformer, and automatic frequency control. With choice of either blonde or mahogany consolette cabinet, the set will retail for $289.50.

Hotpoint Adds to 1950 Lines

◆ NEW PRODUCTS in four lines have been announced by Hotpoint, Inc., each to meet a need of the consumer. A new line of refrigerators, an automatic clothes washer, automatic dishwasher-sink, and a new line of electric water heaters comprise the recent introductions.

The new line of refrigerators is highlighted by Super-Stor models with eight storage zones that provide more space for different kinds and sizes of foods. New developments on some models bring as much as 70 per cent of the contents within fingertip reach. Shelves built into the doors, larger shelf area, and new styling of interiors, doors, and handles are features of the line that includes combination refrigerator-freezer models, as well as conventional-type refrigerators. The Hotpoint refrigerator line now includes 13 refrigerators, and three freezers in 4-, 8-, and 11-cubic-foot sizes. The refrigerators are classified as Standard, Deluxe, and Super-Stor models. Four-

Hotpoint zone managers, marketing executives, and distributor officials met in Savannah for the first of a series of conferences. Looking over the new models are, left to right: L. W. Hitchcock, Jr., zone manager, Atlanta; J. T. Nee, zone manager, Atlanta; Paul E. Sanders, zone manager, Atlanta; D. H. Risher (kneeling), zone manager, Charlotte, N. C.; F. B. Williams, district manager, Atlanta; W. E. Macke, manager advertising and sales promotion, Chicago; D. E. Anderson, manager key account dept., Chicago; Lee Stratton, manager builder dept., Chicago; Floyd Slasor, manager refrigeration dept., Chicago; D. C. Marble, manager range dept., Chicago; A. H. Curtis (kneeling), advertising dept., Chicago; J. R. Ward (kneeling), advertising dept., Chicago; and W. G. Krueger (kneeling), key account dept., Chicago.

cubic-foot under counter refrigerators, and six-cubic-foot models also are included in the line.

The new 1950 automatic clothes washer, model LC3, incorporates 20 new sales features including a larger top opening and new cabinet design. Other features include three-zone water action, three rinses, sediment ejector tubes for trapping and flushing out heavy soil, fluid drive transmission, large top opening, and operating signal indicator.

The high backsplasher on the new Hotpoint dishwasher sink mounts the faucet assembly and two compartments for soap and other articles used at the sink. The new faucet has one lever that controls water temperature and volume, permitting the housewife to "pre-mix" water at the desired setting.

A high backsplasher containing built-in soap compartments and the faucet assembly are features of the new automatic dishwasher-sinks. The new design provides space for articles used at the sink, and also gives more uninterrupted work surface area, according to the manufacturer.

The high backsplasher, matching the trend in electric ranges, has two utility compartments with ventilated doors which serve as platforms for soap, brushes, scouring pads, hand cream, and other such useful articles. The compartments are removable for cleaning. A new faucet that is operated with a single lever also is mounted on the backsplasher to give more room on the sink surface. The lever is raised or lowered for water volume, and

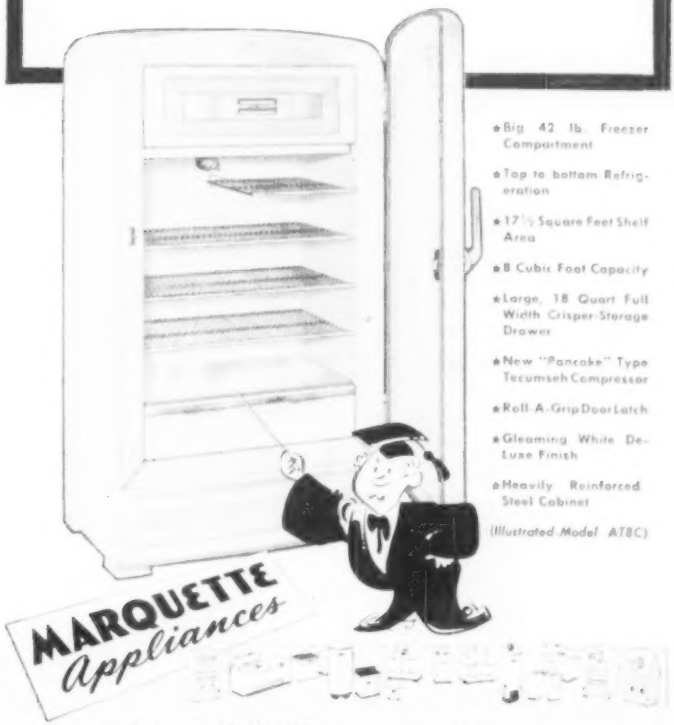
MARQUETTE

LEADS THE CLASS IN FEATURES

...and it's priced to sell!

Convenience . . . capacity . . . dependability . . . beauty. Marquette offers them all! And at a low, fit-the-pocketbook price women want to pay! That's why the Marquette line is easy to sell — offers greater volume and profit possibilities for you.

There's an interesting story for you on Marquette—we'd like the opportunity of telling it to you. Write Marquette Appliances, Inc., Minneapolis 13, Minnesota.



- ★Big 42 lb. Freezer Compartment
- ★Top to bottom Refrigeration
- ★17½ Square Feet Shelf Area
- ★8 Cubic Foot Capacity
- ★Large, 18 Quart Full Width Crisper-Storage Drawer
- ★New "Pancake" Type Tecumseh Compressor
- ★Roll-A-Grip Door Latch
- ★Gleaming White De-Luxe Finish
- ★Heavily Reinforced Steel Cabinet

(Illustrated Model AT8C)

MARQUETTE APPLIANCES INC. MINNEAPOLIS 13, MINNESOTA

moved sideways for temperature control.

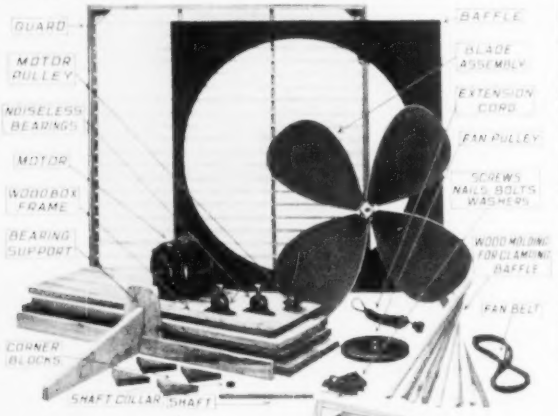
A new lamp accessory has been developed for mounting on the new sinks. It is 33 inches long and has a 25-watt fluorescent bulb that lights the entire sink surface. The accessory is mounted above the backsplasher.

Featured in the new line of electric water heaters is a dial for selecting temperatures, a functional feature which for the first time permits retail salesmen to demonstrate this appliance like a range or dishwasher, stated Hotpoint officials.

The housewife merely turns the dial to the setting that meets present hot water requirements; when the dial is reset, the appliance is ready to supply the expanded needs of automatic equipment like a dishwasher or an automatic washing machine.

Replicas of the "Magic Dial" will be available for salesmen to use as a dramatic sales aid for home demonstrations of how the appliance operates.

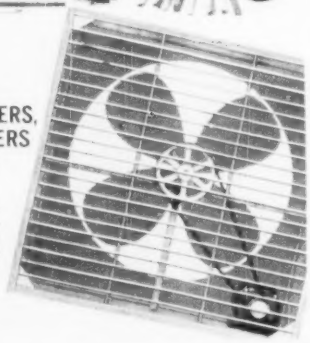
FLORIDA ADMIRAL DISTRIBUTOR — Signing on the dotted line as the new Admiral distributor for Florida and southern Georgia is Jack Stein of Atlanta, president of the newly formed State Distributing Co., Jacksonville, Fla. Looking on, left to right, are Wallace C. Johnson, Admiral vice-president in charge of sales; Charles Birchwood, Jacksonville, sales manager for State Distributing Co.; and Harry Lever, Admiral regional manager. The company will have offices located at 700 E. Union St., and will handle Admiral radios, television receivers, ranges, and refrigerators.



BIG MONEY FOR DEALERS, JOBBERS

With the Fastest Selling Fan Yet!

Completely packaged, everything that's needed, quality parts—at a very low price. Everybody's looking for low prices—your customers will snap 'em up. Fast seling—quick turnover—good profit!



WRITE FOR INFORMATION

S. J. STEWART [ELECTRIC]

527 St. Joseph St., New Orleans 12, La.

New Warehouse Completed in Savannah

◆ Completion of their new warehouse and display rooms, located at 532 Indian St., Savannah, Ga., was celebrated with a formal opening by Peaslee-Gaulbert Corp., of Atlanta and Savannah.

Collier Helms, vice-president of Peaslee-Gaulbert, and manager of the firm's Georgia operation, stated that the show room was installed to assist the dealers in selecting merchandise on the spot on which they can obtain immediate delivery. These rooms are large enough to display a big selection of suites of furniture and major appliances, affording the dealers an extensive selection.

Merchandise will be handled in carload lots in the large warehouse that covers two floors, connected by elevators. At the front of the building there is a large parking lot and loading docks for customers' convenience.

The Savannah branch will be managed by J. D. Ivey, and John Bridger will supervise appliance sales.

NAFM Issues New Bulletin

◆ The National Association of Fan Manufacturers, Inc., has just published Bulletin 110 entitled, "Standards, Definitions, Terms, and Test Codes for Centrifugal, Axial, and Propeller Fans," for distribution to the public.

The bulletin includes under one cover all information previously published in four separate bulletins as well as new tables on size standards for various types of fans and illustrations of revised fan arrangements. Bulletin 110 covers the classification of air-moving equipment, standards, terms, and definitions in use by the fan industry, and standard codes for air and sound measurements.

It is a "must" for anyone interested in fans. A copy is available without charge on request. Write the National Association of Fan Manufacturers Association, Inc., 2159 Guardian Bldg., Detroit 26, Mich.

Cleaner Trial Offer Increases Sales

◆ Landers, Frary & Clark reports its 10 day free trial offer on vacuum cleaners has produced a record volume of business for Universal during March and April. Sales were in excess of any two months period in the 31 years the company has been making vacuum cleaners, according to Lee Moss, sales manager of the Home Cleaning Equipment Division.

A large part of this increase is attributed to the effectiveness and popularity of the free 10 day trial offer available to dealers during this time. Hundreds of large retailers from Maine to California using this offer have found it extremely effective. "The success of the plan indicates American homemakers like to try cleaners out before buying them," said Mr. Moss.

The percentage of returns has been much smaller than was anticipated. Dealers like the program because they are amply protected, and in cases where cleaners are returned to them, they are returned to the distributors and re-

RIDE THIS LINE UP!

1948 1949 1950

White

WHITE DEALERS' SALES CLIMB 58%

Easy-as-Pie, 1-2-3 Installation Closes Sales fast!

1—Just slide it into place . . .

2—Hook it up . . .

3 minutes—The job's done!

WHITE'S
New Porcelain Table-Top Electric
"WATER-HOTTER"

You can recognize *White* dealers these days by their broad smiles—because, White's dealers' sales have JUMPED 58%! Have YOU RS? If not, better get in touch with your *White* distributor, or *White* direct, right suddenly. Get the *White* Proved-Profit story—learn how this FULL line of Gas and Electric WATER-HOTTERS can help you move over to Easy Street!

Electric or Gas

WHITE PRODUCTS CORPORATION
Hot Water Specialists Since 1930
Middleville, Michigan

placed with new ones. "For the past three years," continued Mr. Moss, "cleaner sales have been particularly good in the month of May, and Landers, Frary & Clark feels that those dealers who plan to use the 10 day free trial plan in May will find it just as effective as they did in March and April.

New Name for Noblitt-Sparks

◆ CHANGE of the corporate name from Noblitt-Sparks Industries, Inc., to Arvin Industries, Inc., was adopted by the company's board of directors and will become effective on Monday, July 3, if ratified by the stockholders at a special meeting scheduled for June 29. Advance indications are that stockholders will approve the move.

The company operates eleven plants in five Central Indiana towns with main factories and executive offices in Columbus, Ind.

HUGHES AWARD FOR GULF STATES — Louis F. Riegel, center, general sales manager, Gulf States Utilities Company, Beaumont, Tex., accepts prize winning plaque his firm won in national George A. Hughes competition for 1949. Awards are presented annually to electric companies conducting electric kitchens educational and promotional programs judged outstanding. Dwight R. Anneaux (left), manager of utility division at Hotpoint, Inc., donor of awards, and George E. Whitwell (right), chairman of prize awards committee of Edison Electric Institute, participated in ceremonies at Institute meeting in Chicago.

SELL ECONOMY
with
ECONOMASTER

QUALITY FEATURES ARE

GALVANIZED TANK—Coated with pure zinc, both inside and out for maximum resistance to rust and corrosion. FIBERGLAS INSULATION—Extra thick to retain stored heat. Permanent—will not settle or sag. HOT WATER TRAP—The Economaster is equipped with a very efficient hot water trap to keep the hot water in the tank until needed. HEATING ELEMENT—Genuine Westinghouse Corox immersion type. OUTER JACKET—Heavy rust resistant metal finished in Gleaming White Baked On Enamel with black Baked On Enameled legs. Scratch resistant. WESTINGHOUSE THERMOSTAT—The strap on type, ruggedly constructed, positive action maintains hair line control of water temperature. COLD WATER BAFFLE—Built into the tank keeps incoming cold water from quick circulation with the stored hot water.

WRITE FOR CATALOG GIVING FULL INFORMATION AND SPECIFICATIONS.

ECONOMASTER SALES INC.
128 8TH AVENUE NORTH
NASHVILLE TENNESSEE

Product Parade

Floor Circulator

IN ORDER to provide dealers with a low-priced floor circulator as a companion to their deluxe model, Berns Mfg. Corp. 2278 Elston Ave., Chicago 14, Ill., manufacturer of Air King circulators, is now offering a model designed to retail at $24.95.

The unit features a three-speed motor and accurately pitched aluminum blades which are designed to move a maximum volume of air. The grill permits a free flow of air and at the same time assures safety. Four rubber-mounted legs prevent tipping and marring of surfaces. The entire fan is finished in sunset tan for use either in homes, offices, or stores.

The fan is available in 12-inch size only, and operates on a-c current.

•

Signal Fans

FIVE NEW window fans have been added to the line manufactured by the Signal Electric Manufacturing Company, Menominee, Mich.

Two of the five models feature electrically reversible capacitor-type motors. Just flick a switch and you have fresh cooling air brought in from the outside, or by turning the switch to

the exhaust position, rooms are cleared of smoke and stale air. All models have easy-operating wing nuts which allow the telescopic panel to expand or contract to fit varying window sizes.

The new models require no special wiring or carpenter work—just plug into wall outlet. All models have a neutral, baked enamel ivory finish to harmonize with other room furnishings.

Descriptive literature on the new window fans and Signal's complete line of desk, pedestal, exhaust, and kitchen vent fans is available by dropping a card to Signal Electric Manufacturing Company, Menominee, Mich.

•

Electric Churns

A COMPLETE new line of "Dixie Maid" electric churns has just been announced by Southern Electric Products, P. O. Box 406, Anderson, S. C. Two of the four models available are described here.

Model M is equipped with a quiet, air-cooled motor in white enamel. The propeller dasher churns, whips, and mixes in the one-gallon Duraglas jar.

Model M

The jar is of two- to four-quart capacity. Machine and jar retail at $12.75, and extra jars are 90 cents.

Model S was designed for two- and three-gallon jars. An adjustable dasher is attached to the fan-cooled motor. The churn retails for $15.95. Two-gallon jars are $2.25; three-gallon, $2.70.

•

High-Speed Range Unit

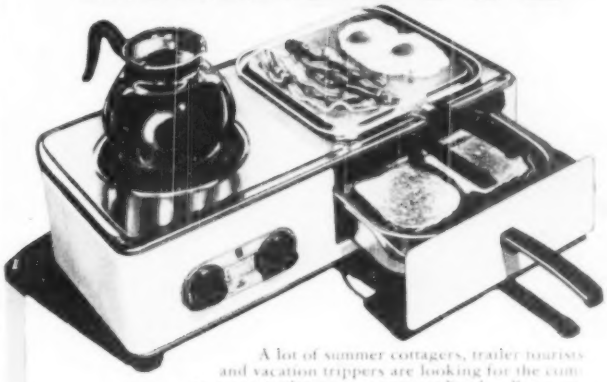
A NEW SUPER high-speed electric range unit, to be known as the Chromalox Rocket, has been announced by Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.

"The Rocket is a clinching answer to the range prospect who may still think electric cooking is slow," stated Bruce A. Fleming, vice-president in charge of sales. "The Rocket, a premium standard-size unit, was designed with the idea of using one—or more—to the range."

The Rocket's high speed is attributed

What's cookin'?

Vacation Profits on the EVERHOT RANGETTE



A lot of summer cottagers, trailer tourists and vacation trippers are looking for the compact, comprehensive, competent Everhot Rangette. They can take it with them wherever they go, use it wherever there is electricity, cook anything, in any desired way.

- Hotel quality broiling. Thick or thin cuts.
- Quick frying on either burner.
- 4-slice toasting.
- Roasting and baking (oven extra).

These features have sales appeal!

Requires less than 2 square feet of table space. Only 7 inches high. Weighs only 19 lbs. Beautifully finished. Stainless Steel top deck. Body finish: white enamel baked on aluminum. Plastic handles. Cast aluminum griddle. Widely publicized—featured in McCall's homemaking gift section.

The price pleases—Retail $54.95 complete. (With T&K Tubular Heating Element $41.95.)

SOUTHERN REPRESENTATIVES

S. T. SCHOOLAR COMPANY—Virginia, South Carolina, North Carolina, Chattanooga, Slip, Richmond, Virginia, 1016 N. Davidson, Charlotte, N. C.
R. G. TITHERINGTON—Louisiana, Mississippi, 705 Camp Street, New Orleans, La.
J. D. SHEEHAN—Texas, Oklahoma, 5631 LaVista Drive, Dallas, Texas
FRANK W. COLLINS—Georgia, Florida, Alabama, Eastern Tennessee, 788 Spring St., N. W., Atlanta, Ga.
E. J. CAMOS—Missouri, Arkansas, Western Tenn.), 5529 Pine St., St. Louis, Missouri
F. S. HOWARD—Kentucky, West Virginia, 326 K. of P. Building, Indianapolis, Ind.

THE SWARTZBAUGH MFG. COMPANY, TOLEDO 6, OHIO

SPACE 104 N.A.E.D. ATLANTIC CITY, JUNE 12-16

New! EASY-TO-SELL

FASCO ARCTICAIRE FANS for '50

The Line that SOLD OUT in '49 Now FOUR WAYS BETTER for '50

Model N-55
12" Lo-Level Fan
3 speeds
(Also available for '50 in 10" size single speed)

● NEW SIZES
The beautiful, fast-selling FASCO Lo-Level Fan . . . now made in TWO sizes . . . 12"—three speeds . . . and 10"—single speed.

● NEW FINISHES
Always tops in eye appeal . . . FASCO Fans for '50 are color-styled, finished for new beauty that lasts for years.

● NEW MODELS
You'll see several other new sure-fire sellers at the Housewares Show . . . or WRITE NOW, for advance information . . . they're the hottest news in the industry.

● NEW EFFICIENCY
FASCO Fans for '50 are again out front in overall performance . . . delivering more air, more quietly, with longer trouble-free life.

16" Model N-163
DeLuxe Heavy Duty

10" Model N-103
Standard

12" Model N-128
Heavy Duty

12" Model N-121
Standard

10" Model N-101
DeLuxe Heavy Duty

16" Pedestal Model N-165 Adjustable in height—4 to 7 ft.

WRITE!
Be sure to get your copy of the 1950 FAN CATALOG . . . NOW!

FASCO INDUSTRIES, INC.
ROCHESTER 2, N. Y.

to the 1600-watt rating as compared with 1250 watts for standard sized small units. The Chromalox "2-units-in-1" principle is maintained, with an 850-watt hot spot inner coil. This inner coil, with a diameter of 4⅜ inches, used alone, fits most percolators and small utensils, and provides super-fast coffee making and water boiling without wasted heat. The Rocket provides uniform over-all heat when both coils are used.

Laboratory tests at Pittsburgh showed that this new high speed unit boiled a pint of tap water in three minutes, which was notably faster than the performance of other cooking fuels available in the locality.

The Rocket is available to dealers and distributors for replacement for 236-volt ranges and fits any Chromalox standard six adaptor ring.

•

Stroke-Sav-R Iron

A NEW OF NEW revolutionary shape, designed to obtain greater ironing surface has been introduced by Landers, Frary and Clark, New Britain, Conn., manufacturers of Universal appliances.

Designated as the Universal Stroke-Sav-R, the new iron is in the form of a circle with a point added to get into tucks, pleats, pockets, gathers and narrow places. It is streamlined to tear drop form for easier sweeping strokes in any direction. It can be used with left or right hand, and irons backwards and sideways as well as forward. It covers 37-1/2 square inches of ironing surface as compared to the usual 28 inches of ordinary irons, yet weighs only 3¼ pounds.

The design of the new iron also incorporates wide sloping bevel that outmodes the high bevel in ordinary irons. Its wide, low bevel extends all the way around the sole plate, eliminating the need for button slots. It slides the full length of a pleat or tuck in one simple motion without bunching, wrinkling, twisting or turning.

The heating element is rated at 1100 watts, and even heat coverage from edge to edge and tip to toe is provided, according to the manufacturer.

A recessed Hand-I-Set fabric dial is located in the handle away from tender knuckles. At the consumer's fingertip, it provides a complete range of heats for every type of fabric.

Air Circulator

A NEW air circulator that can be used as a desk or floor model circulator, wall or window fan, or portable traveling fan has just been announced by Modern Utilities Company, 2400 DeKalb St., St. Louis 4, Mo.

The unit, which has been named the Trav-L-Air because of its portability, is enclosed in a chromed spiral grill with a detachable front guard and deflector. When in place the deflector circulates the air outward in every direction and the unit serves as a desk or floor model air circulator.

When the guard is snapped off the unit then becomes a straight fan and can be used on the window sill to exhaust hot, stale air or to draw in cool, outside air. The adjustable stand can be used as a hanger to make a wall bracket fan of the unit. The stand can be removed for packing so that the fan occupies space of only 11½ inches by 11½ inches in a traveling bag.

The fan is equipped with an 8-inch, 5-blade air impeller, 1/70 h.p. motor, and lists at $17.95.

•

Window Ventilator

THE "Country Aire" window ventilator, manufactured by the Lakewood Engineering & Manufacturing Co., Inc., 1756 W. Lake St., Chicago, Ill., is equipped with a motor mounted on rubber and held in place by rigid support arms to prevent transfer of vibration to the housing. The motor is direct-connected to the fan shaft.

The ventilator has three speeds, and comes in 18- and 20-inch blade sizes. The blades are precision-balanced and provide smooth, effortless operation, moving air quietly and in quantity, according to the manufacturer.

SALES REPRESENTATIVE

By Manufacturer of Nationally Advertised Line of Major Electrical and Gas Appliances to contact and work with distributors in the South — give full details your background and experience. For personal interview reply Box 643 Electrical South, 806 Peachtree St. NE., Atlanta 5, Ga.

Names and Faces

W. B. Creech, Southeastern district appliance manager, for **Westinghouse Electric Corp.**, Atlanta, has been advanced to the position of assistant sales manager of the Westinghouse Appliance Division, with headquarters in Mansfield, Ohio.

Mr. Creech, who is a native of Quitman, Ga., has been associated with the Southeastern district appliance division of Westinghouse for just over 20 years. During that period, he has held every job in the field organization with the exception of service man, starting out as a specialist on electric ranges, then serving several years as general appliance representative, and refrigerator specialist, five years as district sales promotion manager, and the last 10 years as Southeastern district manager.

W. B. Creech

•

The **Century Electric Co.** announced recently that **Edwin S. Pillsbury**, one of the founders of the Century Electric Co. and president since 1941, relinquished his presidential post to be succeeded by his son, **Fred H. Pillsbury**.

The elder Pillsbury will continue as chairman of the Board of Directors, with his son taking over active management of the company. Fred H. Pillsbury has been vice-president in charge of operations since last July, and a member of the Board of Directors since 1942.

The new president joined the company in 1927 following his graduation from Washington University.

•

Parker H. Ericksen has been elected vice-president in charge of sales for Bendix Home Appliances, Inc., South Bend, Ind. Mr. Ericksen joined Bendix Home Appliances, Inc., in 1948 as advertising and sales promotion manager.

Parker H. Ericksen

During and immediately following the war he was with a radio manufacturer, returning to Bendix in the spring of 1948 as director of sales.

•

The **Cannon Distributing Company**, wholesale appliance concern, of Charleston, S. C., has been appointed distributor for Youngstown Kitchens in Coastal Carolina and **Frank E. Rhodes** has joined the Cannon staff as sales manager for the new line.

Frank E. Rhodes

Mr. Rhodes, who will be in charge of Youngstown sales in 29 South Carolina counties, has been manager of the Riverside Appliance Company, of Georgetown, S. C., until his recent move to Charleston. A native of Worcester, Mass., he was educated in New York City and studied advertising and merchandising at Columbia University. He has served as territory manager for the Goodyear Tire and Rubber Company, in Pittsburgh, Pa., and for four years was president of the Palmetto Tire and Electric Company, at Georgetown.

With the Murray Line the Weather Is Fine . . .

THE MURRAY 24-INCH WINDOW FAN

This fan produces ample ventilation for the average small home or apartment. It operates quietly, it is sturdily made of fine materials and is finished in a rich ivory color with bright stainless steel trim. Windows can be opened and closed with the fan installed, eliminating storage problems.

Deep pitched patented Torrington blade for maximum air delivery and quiet operation. Two thumbscrews at top remove front guard for convenient and easy cleaning. Equipped with 1/3 hp. General Electric or Westinghouse motors which provide ample power. Lifetime bearings—require no lubrication. An exclusive Murray feature.

JOBBERS—You can handle this complete fan line knowing you are selling the best. A few territories are available. Write for details and full information.

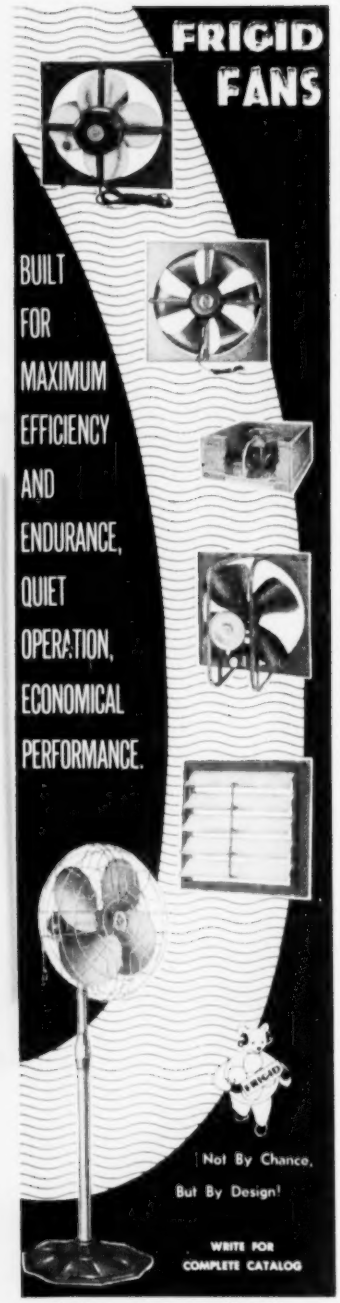
THE MURRAY CO. of TEXAS, Inc.

Atlanta 1, Georgia Dallas 1, Texas

Sales Agents

H. C. BIGLIN CO., Inc. **Atlanta 3, Ga.**

177 Harris Street, N.W.



Southeastern Representative & Warehouse
W. H. BERRY COMPANY
45–47 ALABAMA ST., S.W. ATLANTA 3, GEORGIA
CIRCULATORS & DEVICES MFG. CORP.
BROOKLYN 32, N. Y.

Television Servicing

(*Continued from page 86*)

Media used are newspaper advertising, radio and television advertising, and direct mail, each media concentrated on a particular segment of the population.

Washington newspapers are utilized at least once a week. Copy plays up the coupon plan under the caption of "Ward's New Miracle Television Service Policy." Although dealer mats are used for the bulk of the ad space, they are adapted and modified by the store's advertising agency.

Television time itself as well as radio spot commercials are used extensively to further step up this advertising campaign. At periodic intervals, Ward's participates in shows put on by the manufacturers for their retail outlets. The store prefers to take to the air consistently. This is in order to refresh the public's memory constantly on the name of the establishment and what it stands for.

In this respect Ward's agrees with old Bill Shakespeare that "consistency, thou art a jewel," can be applied to radio as well as other forms of promotion media, since they hammer away at them consistently. That policy confirms a fact known by other advertisers that the sales effectiveness of long-range, regularly cumulative persistent advertising increases from month to month and from year to year. If intelligently planned and wisely executed, advertising should be more effective during the second six months than the first, and even higher during the second year.

The third promotion medium, direct mail, is used extensively also. Reprints of newspaper ads are sent out after each insertion to a regular list of 5,000 names taken from the directories, store accounts, or of newcomers.

Tieing in with all of this is personalized, word-of-mouth advertising that comes straight from the store itself, with the inside salesmen constantly playing up the advantages of coupon rebate service to persons coming in. A personal consultation service is afforded which in some cases even embraces service in interior decoration and furnishings, together with the set purchased.

From the physical standpoint, the location and architectural features of Ward's has contributed heavily toward building up store traffic. Situated at the corner of Colesville Road and Georgia Avenue, which is the Times Square of this bustling community, second in population only to Baltimore throughout the state, the store draws immediate interest from passers-by. This formal attention is accentuated further by plenty of neon signs indicating national brands available, with a lot of parking space close by.

It is this type of alert merchandising which has enabled a suburban retailer to successfully meet competition from stores in a large city. In this instance Ward's has turned the tables on the large downtown Washington, D. C., stores by not only keeping the community's patronage at home, but drawing a good deal of its volume from the buyers living in the metropolis next door.

Mixed trade has been drawn from Federal government workers, city dwellers, and suburban residents as well as rural buyers—a type of business which has enabled Ward's to demonstrate phenomenal growth in its 11 years.

Keep It Colorful

(*Continued from page 91*)

ley Company—And Enjoy a Free Sandwich Cooked in the Oven!" Hams, beef roast, turkey, etc., were cooked over a two-week period, while the truck roamed the residential districts with Aunt Jemima in the flatbed, cooking away. She brought in hundreds of women, and sold more ranges for "Hot Syrup" than a week of full-page newspaper ads, Hanley believes.

Staged frequently is an open house, during which Hanley maintains a three ring circus, consisting of sit-down ironer, sewing machine, and washer demonstrations going on simultaneously. He serves food to everyone, puts a crew of home economists out on the floor, who often write up as many sales as the salesmen themselves. Now that he's moved to a new and larger store, Hanley feels

he can handle twice as many prospects at once, with a basement storage room converted into a cooking school auditorium.

Because of his florid, easygoing manner of speech and solid knowledge of economics, the Missouri dealer is a frequently called upon speaker at Maplewood events. He makes a practice of calling every one by first names, right after the introduction, but few St. Louisans can take that "Hot Syrup" nickname seriously enough to use it—even though it's in letters four feet high on the side of his building.

For 1950, Hanley will continue stunt after stunt. Less controversial will be a cooking school program in the basement, seating 30 women at a time, and presenting home economists from Union Electric Company of St. Louis. Hanley plans to give away all the food his prospects will eat, and to insert a lot of comedy entertainment along with the serious demonstrations. In the meanwhile, this "live-wire" Missouri dealer keeps setting records for appliance volume which are hard for more sedentary dealers to match!

Merchandising Plant

(Continued from page 88)

To the right of the main appliance showroom is the "Television Theatre," which, by means of folding chairs, can seat 100 women, either for television broadcast presentation or model kitchen cooking schools. The model kitchen is set up on a stage at the rear, with a curtain dropping down in front, on which television shows are presented. The company plans to present cooking schools on a weekly basis, inviting women from a list of 6,000 prospects carefully worked up before opening of the new store.

The television shows are presented each evening through the week, during which Miss Waters announces cooking schools, issues invitations, and schedules events so that the theatre can handle an even 100 women at a time. During days when the auditorium is not needed for cooking schools, educational classes for salesmen, etc., the auditorium is available to the public for club meetings, PTA meetings, etc. Billings Appliances, Inc., freely renders this service to the community, and has found that appreciation forthcoming is intensely valuable in getting the nod on new appliance purchases.

Specialization is heavily emphasized in the new Miami dealership, as pointed out before. Therefore, on the sales staff are television specialists, refrigerator specialists, range salesmen, washing machine experts, etc., each of whom handles only his particular specialty. All answer to Robert White as general sales manager, who, in turn, works up sales campaigns in combination with the advertising department and Billings himself.

"Incidentally, we are not using mat service advertising of any type," it was indicated, "which is actually only an extension of factory advertising, and which holds little or no personalized eye appeal for the reader. Instead, all of our advertising will be built around our own organization, with photographs of our executives, salespeople, etc., blown-up in each ad to gain more than passing interest from the public."

Billings Appliances, Inc., has budgeted an unusually large percentage of gross volume for advertising purposes, and through intensive prospecting, intends to sell a year-round market in what is ostensibly a winter tourist town.

Branch Operations

(Continued from page 87)

when the appliance store could operate without a service department is long gone," he said, "and the fact that we uniformly repair and maintain warranties on all appliances we sell means a lot to the average homeowner in the smaller town.

"For example, where we expected only a smattering of service calls from each community, the average per day may be 4 or 5 throughout the whole chain, and even more. In this way, the cost

Highest Quality Water Heaters at COMMON SENSE COST

Important selling features make these water heaters move fast and yield greater profits to you.

- Elno Rustopper Anode Rod
- Wheeling Extra Heavy Tank
- Westinghouse Heating Element and Thermostat
- Fibre Glass Insulation
- Ten year guarantee and warranty plan
- Peak Performance — — Peak Profit
- Table Top and Upright Models

Write for

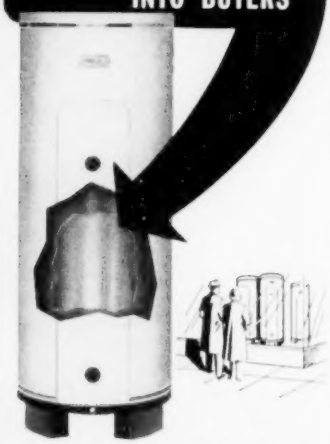
Full Information and Literature

ADACAR MANUFACTURING CO.

NAPIER FIELD DOTHAN, ALA.

Porcelining (GLASS-LINING) does it!

TURNS "LOOKERS" INTO "BUYERS"



FOWLER

Porcelined (GLASS-LINED)

WATER HEATER

assures rust-free hot water always

Here's the water heater that "clicks" with shoppers!

Porcelined to prevent rust and corrosion, Fowler *stands out* as the water heater that gives users every assurance of pure, hot water always.

ELECTRIC WATER HEATERS. [illegible]

GAS WATER HEATERS. [illegible]

LOWEST PRICED [illegible]

Sales-wise . . . profit-wise, FOWLER is a natural for your store. SELL FOWLER!

Get the facts about Fowler

Write Today

FOWLER MANUFACTURING COMPANY
[illegible]
Please send complete information about Fowler Electrical Gas Water Heaters.
Dealer
Address
Distributor
Address

of maintaining service are compensated for in the amount charged in the original appliance price, and in some instances, the service departments are even helping to pay overhead—where service is carried on out of warranty."

Each manager likewise makes up his own advertising schedule, and budgets it from store operating expenses, which are later approved in Montgomery Fair headquarters. Much help has been obtained from manufacturers who are interested in the decentralized store plan. Two of the stores, incidentally, are franchised with one manufacturer's entire line of appliances, while the remaining four handle another. This was due, according to Mr. Henry, to existence of other franchises, which had to be honored in setting up the smaller stores.

While, as pointed out above, each of the managers has a largely free hand in conducting his own sales and service operations, all special sales and such events are controlled from the main office. All inventory records for each store are maintained in Mr. Henry's office in Montgomery, and any projected markdown sale must be approved from this office before being permitted.

Each store takes advantage of colorful demonstrations, novel contests, late - Friday - evening hours, etc., as dictated by the main store, which tests all promotions before passing them down to the remaining five units. All managers are invited to develop merchandising stunts of their own, and to pass them along to the main store, where they are approved or disapproved.

What have been the results of this plan? They have been excellent from the outset, as the $1,013,000 volume established by December of 1949 eloquently proves. In addition, at a time when most appliance retailers are reporting volume down 15 to 25 per cent, due to less spending on the part of the average homeowner and more careful bargaining, over-all volume throughout the Montgomery Fair decentralized group of stores was only 4 per cent behind the record volume of 1948.

The entire plan has worked out so successfully that stores which were leased on a temporary basis during experimental stages of the program, have been permanently remodeled and equipped for appliance demonstrations, and will be a steady feature in each of the small towns involved.

The Feminine Touch

(Continued from page 80)

never think of that store as an appliance dealer? The sales manager mentioned believes, too, that the shopping center dealer, for example, can work out spot displays to his advantage with neighboring merchants, if he tries.

We talked with one of the salesmen assigned to the spot display described. He is young and alert, neatly but not flashily dressed, clean-cut but not handsome. He was on the spot for 50 minutes and said that in such a tour of duty he usually picks up five real prospects.

We watched him work with two young married women. He took them from top to bottom of that

Increase Cord Set SALES

TWO BIG-PROFIT DEALS

free Self-Selling DISPLAYS

YOUR CHOICE of two smartly finished wood displays, two fast-moving deals offering a DAVIS Cord Set for every need. Display No. 5, 8½" x 8½" x 16", holds 34 Davis sets; display No. 10, 20" x 20" x 8", holds 60 Davis sets. Each set is fully displayed and *tagged with informative, self-service label* to increase impulse buying, reduce sales time.

See YOUR JOBBER OR WRITE DIRECT FOR FULL DETAILS AND PRICES

DAVIS Mfg. Company

PLANO 1, ILLINOIS

Southeast Rep. H. K. Dowes Co. Walton Bldg., Atlanta, Ga. — Southwest Rep. M. C. Huie Co. Thomas Bldg., Dallas, Tex.

refrigerator so easily and so inoffensively that they liked it. After less than five minutes, in which he got both names, he came back and we asked what luck.

"One of them," he said, "just wanted to compare our box with a new one she just bought. She just bought a new electric range, too. That," he added as he put away his note book and grinned, "makes her a good prospect for a washing machine. She can afford it!"

Selecting Salesmen

(*Continued from page 81*)

sales floor. All sales made to persons in his zone are credited to him. If he makes the sale, he receives his full commission plus a 2 per cent zone commission; if someone else makes the sale, he receives the 2 per cent zone commission only.

During the entire training period, new salesmen work on a salary basis. The usual remuneration is $50.00 a week. When a salesman is given a territory, he is put on draw on commission—that is, given a fixed weekly income based on his earned commission. He can receive up to 80 per cent of his earned commission in draw. The balance is held for him by the company, and this is paid to him at the end of every three months or held for him in his "pool," to tide him over slack seasons.

Commission on retail sales is 8 per cent. An additional 2 per cent is paid for all retail sales made in the salesman's territory, provided he makes a survey call on the customer within three days of the delivery of the merchandise.

On builders sales, salesmen receive a small per cent commission and an additional one per cent if the sale is made in their territory.

In addition, many appliances such as obsolete television sets and slow-moving major appliances are placed on a special "push list." Rather than advertise these items at a reduced price, we prefer to increase the salesmen's commission rate to as much as 30 or 40 per cent on these items.

Between $75.00 and $100.00 monthly is distributed to our salesmen in the form of sales contest prizes. Prizes are awarded to the salesman who has the highest total of sales during the month; also to the salesmen who have the highest total of radio and television sales, major appliance sales, and electric housewares sales.

Our education program continues with sales meetings every Monday and Thursday between 9:00 and 10:00 a.m. Here salesmen discuss their individual problems and learn selling points on new products. We believe in and use mock sales and practice sales demonstrations.

Our program of selecting and training salesmen, we believe, has cut out much waste in the training of poor sales prospects. Our turnover has been cut to a minimum, and exceptional sales aptitude has revealed itself quickly through our aptitude tests.

Driveway Demonstrations

(*Continued from page 79*)

day than they can sell in a week by waiting for prospects to visit the downtown store.

A yardstick is one of the most important sales aids carried in the truck. Housewives view and operate some appliance, become interested and have the urge to buy. Next they wonder if the item will fit within a certain space in their homes. Here the yardstick is used. Orders usually are written quickly after these steps.

Stocks of literature, together with sales manuals provided by the various manufacturers, are carried in the truck. This assists in obtaining orders from those housewives who want a unit either larger or smaller than the appliance displayed. Appliances within the truck are changed from time to time as new products and models are introduced.

The roof and sides of the truck were insulated to permit demonstrations in either the Florida summer sun or during cooler days in winter. The truck heater keeps the interior comfortable on chilly days.

Salesmen waste no time in loading and unloading the demonstration units. The rear door and two front doors are locked at night to

Faster Sales! Larger Profits!

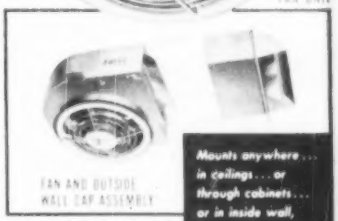
with

FASCO

Automatic Kitchen VENTILATORS

● *For Ceilings and Inside Walls*

FAN UNIT

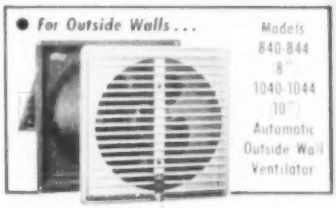


FAN AND OUTSIDE WALL CAP ASSEMBLY

Mounts anywhere . . . in ceilings . . . or through cabinets . . . or in inside wall, directly above stove.

Models 1020-1021 (10") "Ceil N Wall" Ventilator

● *For Outside Walls . . .*



Models 840-844 (8") 1040-1044 (10") Automatic Outside Wall Ventilator

● They move *more* air, *faster*, for *less* money! *And* . . . THEY SELL!

DOUBLE YOUR SALES with FASCO'S new *Active* Ventilator Display Deal. FREE Limited offer! Hurry!

WRITE, WIRE or PHONE for complete information. FASCO Industries, Inc., 55 Union St., Rochester 2, N. Y. (Phone HAmilton 1800.)

FASCO

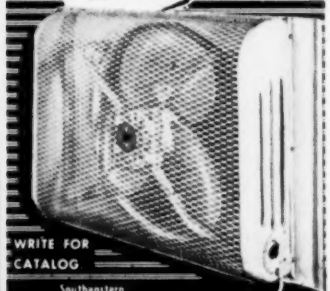
INDUSTRIES, INC.

ROCHESTER 2, NEW YORK

FRIGID
Slimline **WINDOW FANS**

The new motor noise silencer rubber hub propeller and motor mounting makes this a really quiet window fan.

Telescoping side panels, adjustable for windows from 29½" to 38" wide. Displaces 3520 cubic feet of air per minute (changes air in 2 or 3 average size rooms per minute). 3 Quiet Speeds 700, 900, 1100 R.P.M. Occupies little usable room space . . . only 6½" deep.



WRITE FOR CATALOG

Southeastern Representative & Warehouse:
W. H. BERRY COMPANY
45-47 Alabama St., S.W. Atlanta, Georgia

CIRCULATORS & DEVICES MFG. CORP.
BROOKLYN 32, N. Y.

SPECIAL OFFER TO DEALERS

Electric Fan Sales-Aid Kit

COMPLETE FOR ONLY $1.00

This special kit includes two copies of the 16-page manual—"FANS FOR YEAR 'ROUND COMFORT"—prepared by the manufacturers to help you sell more fans. Complete information on the use of fans in the home. This manual can help you tell your customers how many and what size fans they need and how they should be used.

ALSO—fifty copies of 4-page consumer folder, "ELECTRIC FANS FOR YOUR COMFORT." Perfect for consumer distribution.

CLIP AND MAIL TODAY!

ELECTRIC FAN SECTION
National Electrical Manufacturers Ass'n.
155 East 44th Street, Dept. ES-6
New York 17, N. Y.
Enclosed find $..... for which please send me..... Electric Fan Sales-Aid Kits, each consisting of two 16-page manuals and fifty 4-page folders.

Name.....
Street & No.....
City, Zone & State.....

prevent theft. The appliance "store-on-wheels" attracts considerable attention in parades, at fairs and at other public gatherings.

It permits salesmen to visit all parts of St. Augustine and make sales to housewives who normally would never drive within miles of the retail store.

Managing Salesmen

(*Continued from page 77*)

supersedes the first in importance.

It is safe to state that within the following 30 days, practically every appliance prospect is going to be canvassed by one or more appliance salesmen. If the prospect gave no thought to where he bought his appliances, canvassing would be needless for some time to come. But everyday, from now until eternity, appliance sales are going to continue being made. This is direct evidence that the prospect is more influenced by the salesman than by the brand name. For it has been proved in many lines that the organization behind it at retail level can make or break it locally!

"Occasionally," said the manager, "one of our salesmen will misrepresent. I have caught two recently who informed the customer the appliance they were considering could be connected to any type outlet. Because of the store's reputation, the customers accepted the statement without question. That's a good demonstration of the confidence the public places in us."

But when delivery was made, the customer found that before the appliance could be connected, some changes would have to be made in the plumbing fixtures.

"Our deliveryman," the manager continued, "phoned me from the customer's home, as he's instructed to do under such circumstances. I got hold of the salesman who made the sale, and on his own time—and at his own expense—he had to see that the appliance was made usable to the customer, just as he represented'"

In spite of all you can do, appliance salesmen are going to misrepresent occasionally. A means to detect this must be set up. And the salesman must stand the expense involved in backing up his statements. Thus checkmated, they stop it, or they find themselves no longer with the organization.

It's a trait of human nature to take advantage of circumstances. And when salesmen are allowed to get by with misrepresenting once, they'll soon make it a practice. And it's part of the manager's responsibility to forestall this, not to be content to hold it to a minimum.

A department manager's job is a thinking one at Foley's. He must create ideas to boost sales of appliances, first of all. Secondly, and perhaps more important, he must think of ways to help his salesmen boost those sales. Recently, the major appliance manager came up with an idea that more than doubled washing machine sales, and was a boon for his salesmen's commissions, as well.

In every town and city there are a number of residents who are classified as semi-transients. They move from apartment to apartment. And every time they move they cannot afford the expense of a plumbing job, yet many of them don't want to de-

FOR SALE

Electrical business — appliances, contracting, radio repair and appliance repair shop. Our Franchises include Westinghouse major appliances, Zenith radios, RCA Victor radios and combinations, Universal major appliances, Deep Freeze and Ben Hur home freezers, Youngstown cabinets, the only record shop in this trade area, and many other items of trade value. This location has an excellent school, churches of nearly all denominations and many civic organizations. If you have the cash, let us hear from you. The reason for selling — we are going to retire. We can show you where this business did $100,000.00 worth of business last year. It is an opportunity for you if you are willing to work. All correspondance held strictly confidential. Write Box 642 c/o Electrical South, 806 Peachtree St. N.E., Atlanta 5, Ga.

For your needs in WASHER PARTS TRY

Refrigeration Supply Co.
1831 W. Broad St.
Richmond, Va.

prive themselves the benefits of an automatic washing machine.

A little thinking, and the appliance manager came up with a simple device that makes one brand of washer into a portable washer that requires no costly installation or plumbing changes. He realized a need, thought it through, and designed a coupling that enables the customer to attach this machine to the kitchen sink or bathtub faucet. Four casters were added, so the machine could easily be pushed from room to room, or stored away when not in use. And sales have been phenomenal!

The device mentioned above is in the process of being patented. It will be available shortly. The couplings that make it possible to hook the washer up to any type faucet are on the market now!

The time has come when the prospect is no longer hunting appliances, but is choosing the source of supply with greater care.

The store's reputation is the backbone of any sales organization; the salesmen's attitude and behavior build that reputation—or undermine it. And in the department manager's own words, "Beware of the experienced applicant—until you know where and under what conditions he gained his experience!"

PROFITS SOAR
Selling Low Cost Washed Air Comfort.

SELL ESSICK Revolutionary Pour-In Units — Installed In Five Minutes — No Piping.
OVER 7,000 DEALERS, Nationwide, Sell Essick Packaged Comfort
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Get set for Bigger Sales with the great

Quietaire

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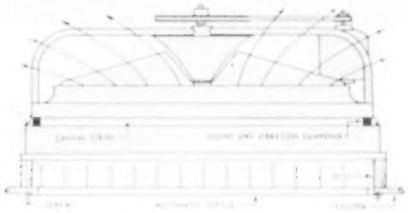
SELLS FOR LESS, OFFERS BIGGER DEALER PROFITS



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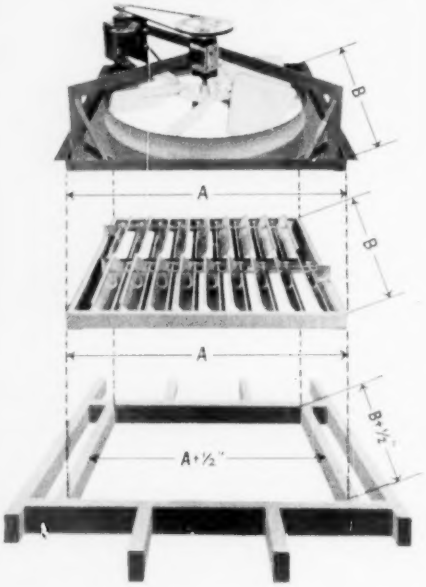
The *REED* Vertical Air Discharge Attic Fan



Requires An Attic Clearance of ONLY 13 3/8"

INSTALLATION DATA

MODEL	FAN and SHUTTER A	B
RVU-24	32"	32"
RVU-30	36"	36"
RVU-36	42"	42"
RVU-42	48"	48"

CASH in on the increasing demands of thousands of home owners for the new, popular "lay down" Reed Attic Fan. Depend upon a Reed for low cost of installation, quietness, powerful air delivery and trouble-free service.

Write for Free, Completely Illustrated Catalog

Certified Ratings — PEMA

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UNIT-FANS, INC.
Manufacturers of Ventilating Equipment
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New Orleans 8

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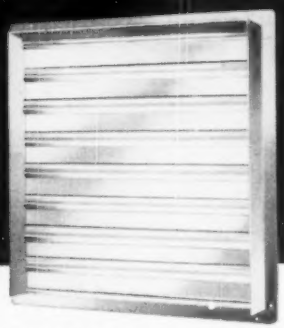
they all want **AIR-FLO**



MODEL A-555

THE AUTOMATIC SHUTTER WITH ALL THE FEATURES

FRONT VIEW—CLOSED

IT TAKES THE LOAD OFF THE FAN!

Aluminum louvers open fully, permitting capacity fan operation. New heavy reinforcement strip adds strength and long life to the louvers, assures quiet operation and perfect counterbalance, prevents rattling. Deep shroud protects shutter from high winds. Tie-rod, brackets and bearings inside frame, not exposed to weather. Special finish resists corrosion. Many other features.

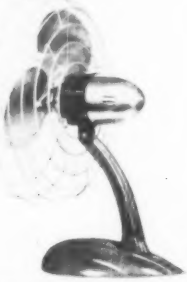
WRITE FOR NEW AIR-FLO CATALOG 43-B

Illustrations and details of the complete Air-Flo line.

AIR CONDITIONING PRODUCTS CO.
2340 W. LAFAYETTE BLVD. • DETROIT 16, MICH.

STREAMLINE 20" COUNTER FAN

only **$17.50** plus 10% Fed. Tax



- 3500 C.F.M.
- Big 1/6 H.P. 110 volt 60 cycle motor
- Beautiful Hammertone green finish . . . polished hood
- Lists for $49.50—you make more
- Model No. 20TF

"The BIG NAME In FANS"

STANDARD ELECTRIC
MANUFACTURING CO.
WEST BERLIN, N. J.

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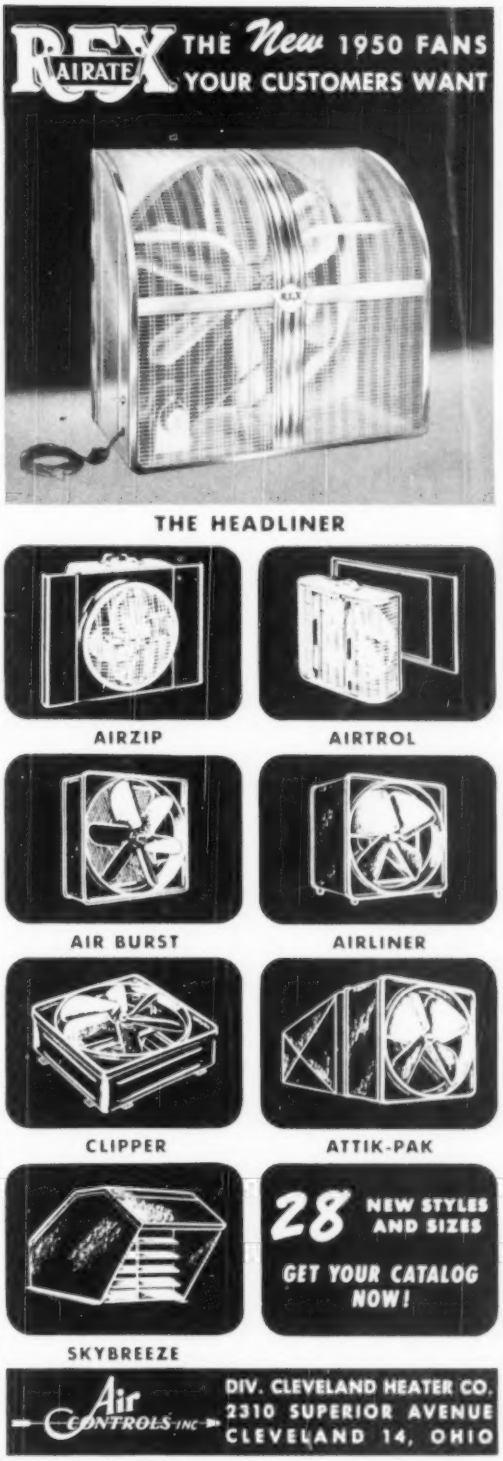

Want a New Salesman for Nothin? I'm it!

Wagoner

WATER HEATERS SELL THEMSELVES!

"Put me out where folks'll see me . . I'll do 90% of your selling for you. All you have to do is close the deal . . get the signature on the dotted line!

"That's easy, too, because Mrs. Home Maker will marvel at my beauty and utility . . and, the man of the house—who clings to the family purse strings—will cater to her whims when he glances at my amazingly low price. SUCH VALUE!

"Low price, yes . . but your fair profit's there. You'll profit more with the sale of Wagoner Water Heaters and Ranges than any similar items.

"MAIL THE COUPON BELOW for 1950 Wagoner Booklet in color, showing complete Wagoner family of Water Heaters and Ranges. It gives complete facts, too!"

MR. W. G. WAGONER, President
America & Southern Corp., Nashville 10, Tennessee

Please send me booklet 5-65 which describes the complete line of Wagoner Products—free of charge and without obligation, of course.

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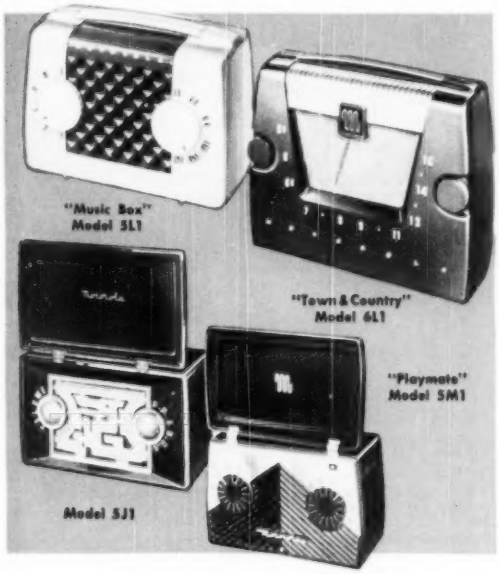
THE NEW 1950 Motorola PORTABLES ARE BETTER THAN EVER!



HERE'S WHY...

1. It's a big gift season. Besides Christmas, this is your *largest* gift season! For graduation gifts, Father's Day, Weddings . . . portables are perfect gifts for all! For men or women . . . young or old . . . a portable is a welcome gift of entertainment that goes everywhere!

2. Vacations are on the way! Here's a power-packed portable selling feature . . . portables to take on vacations! Wherever your customers are going . . . beaches, cabins . . . city or country . . . Motorola portables bring extra FUN. They operate on AC DC house current, or their own long-life batteries. Like a piece of luggage, portables "GO-ALONG!"

3. Motorola's big national promotion is in full-swing NOW! The biggest national portable gift promotion EVER . . . is going strong RIGHT NOW. Leading national magazines are pre-selling your customers on Motorola portables as gifts. Available to you are Ad Mats, Window and Counter Displays, Window Streamers, and individual Gift-Day Displays! You can't afford to miss this golden opportunity for profits . . . get in on the act NOW!

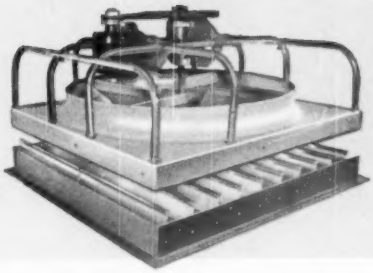
Contact your MOTOROLA Distributor!

Motorola **RADIOS TELEVISION**

MOTOROLA INC. • 4545 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS

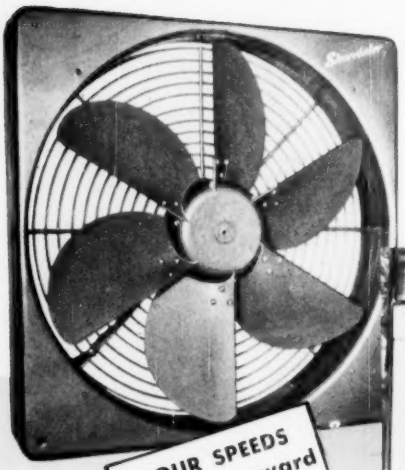
Shovelaire VERTICAL DISCHARGE ATTIC FANS—4 SIZES.

Eight speeds provide effective, efficient cooling for every type and size of home. Easy to sell. Easy to install. Its steel frame with tubular supports is strong and light weight, requires minimum attic clearance. Its rubber mounted general electric motor, smooth ballbearing operation and patented "Shovelaire" blades move more air with less noise. Add this new Shovelaire vertical discharge fan to your line.



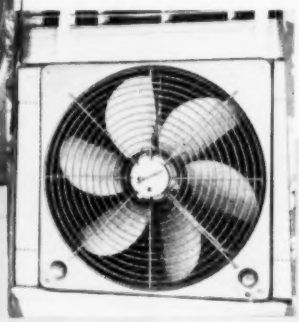
More profit through more sales to more prospects with

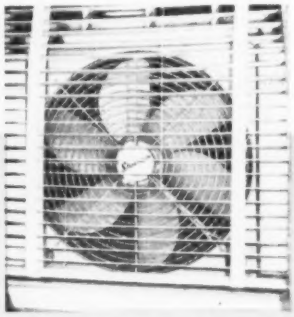
Shovelaire® FANS



FOUR SPEEDS
2 speeds forward
2 speeds reverse

Never have your fan sales opportunities been so great! More new home owners than in any year—and the pace keeps up! Never have you been able to offer a more complete line of fans—than with the Shovelaire line. A full range of types including desk, floor, stand, ceiling, window, attic and exhaust. Prices, too, fit any budget. Write for new literature, prices and name of your Shovelaire distributor.





Here's the New Shovelaire® Thin Window Fan

Distributors Note: A few select distributorships are open for Shovelaire Fans. Call or write for details.

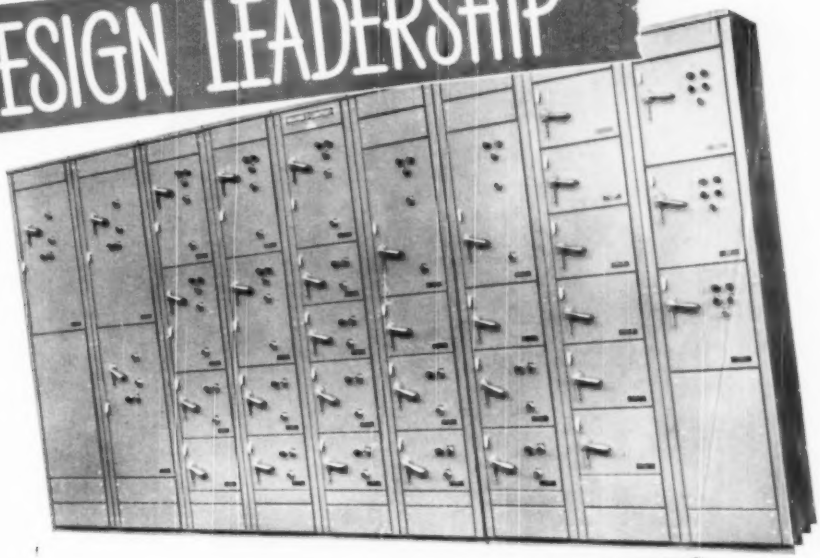
Never have you had more to sell in a fan than in this beautifully designed THIN WINDOW Shovelaire. A fan so thin it does not protrude into the room; does not interfere with window, blind or curtain operatron. Adjustable to seven widths—and more important—has 4 SPEEDS . . . two forward, two reverse. An attractive grille covers the blades on the room side. Easy to set up for demonstration, you'll find the answer to every customer need in this line.

In two sizes—model 30W28 has a 1/6 H.P. 10 pole capacitor Motor, is 30 inches square, 5¼" thick; has 6 blades. Model 27W24 is 26½ inches square and only 5 inches thick; has 4 blades. Both are reversible. You can be certain when you tell your customer just how much air the New THIN WINDOW Shovelaire will move—all ratings have been tested and certified by Texas A. & M. College. See these fans. Write for new literature, prices and name of your Shovelaire distributor.

C & H AIR CONDITIONING FAN CO., INC.

ATLANTA, GEORGIA

DESIGN LEADERSHIP



SQUARE D CONTROL CENTERS provide MORE control in the SAME space

SQUARE D CONTROL CENTERS have provided substantial space savings in 70% of recent installations: The compact design of Square D starters and circuit breakers permits side-by-side mounting through SIZE 3. Free standing vertical sections have mounting provisions for individual control units built to minimum heights based on 3" steps. Each section has 78" height available for units. SIZES 1 and 2 non-reversing starters are 12" high; SIZE 3 is 15" high.

The control center illustrated above shows typical Square D space economy. The following is incorporated in only 188" L x 90" H x 20" D:

SECTIONS 1 AND 2 *(left to right)*—three starters and one space for 7.5 H.P. motors.

SECTIONS 3 THRU 7—two-speed starters for five 15/3.7 H.P. and two 30/7.5 H.P. motors. Starters for five 30 H.P., four 10 H.P. and two 2 H.P. motors. Three 50A frame branch circuit breakers.

SECTION 8—Six 50A frame branch circuit breakers.

SECTION 9—Three reversing starters and one space for 7.1/2 H.P. motors. (Pilot lights and push-buttons are mounted in covers without increasing standard unit sizes.)

If Space Isn't Your Problem—consider these important features:

Plug-In starter units slide on guide rails at four corners. Spring backed, silver plated stab fingers grip round vertical busses.

Safety Disconnect handle mechanism locks both door and disconnect with one to four padlocks. On closing unit door, handle moves to indicate ON or OFF.

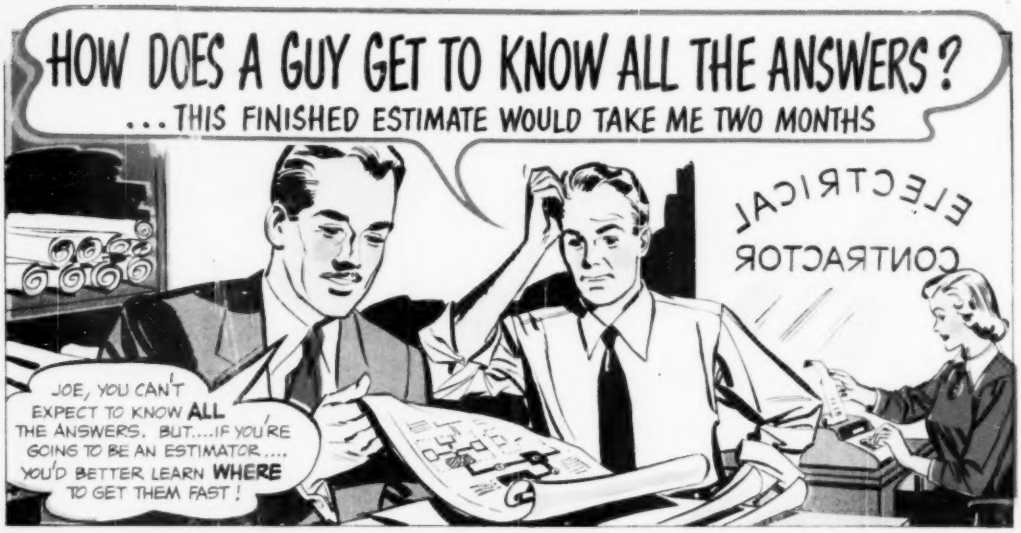
Wiring Channels at top, bottom and both sides of each section are fully front accessible.

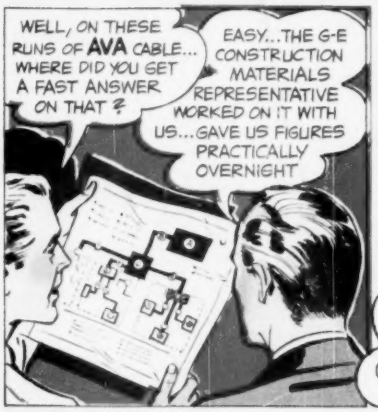
Write for Bulletin 8938. Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.





Section L3-624
CONSTRUCTION MATERIALS DEPARTMENT
General Electric Company
Bridgeport 2, Connecticut

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- ☐ G-E remote control wiring
- ☐ AVA cable
- ☐ Flexible conduit
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